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International Journal of Cognitive Research in Science, Engineering and Education

(IJCRSEE)

EDITORIAL

International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE) is an open access international peer reviewed multidisciplinary journal that publishes professional, scientific and review papers in the field of humanities, pedagogical sciences, psychology, IT, mathematics and other sciences. Editorial Board strives to provide a possibility for the scientists of different fields to publish the results of their research, technical and theoretical studies. IJCRSEE is multidisciplinary in approach, and will publish a great range of papers: reports of qualitative case studies, quantitative experiments and surveys, mixed method studies, action researches, meta-analyses, discussions of conceptual and methodological issues, etc. IJCRSEE publisher is The Association for the Development of Science, Engineering and Education from Serbia and copublisher is College for Preschool Teachers, Aleksinac, Serbia.

The journal publishes articles in all areas of cognitive science, including studies of cognitive processes, emotions, perception, memory processes, thinking, problem solving, planning, training, studies of language and consciousness. The journal focuses on studies in the field of education, human performance and studies of fundamental cognitive skills in everyday life. The journal combines works in the field of psychology, artificial intelligence, linguistics, philosophy, computer science and neuroscience. The articles on the results of scientific research in various fields of cognitive science that concentrate on multidisciplinary audience are of top priority for the journal. The audience of our journal – is, in the first place, researchers in the field of cognitive science and related fields, including psychologists, educational researchers, anthropologists, philosophers, linguists, neuroscientists, programmers.

IJCRSEE has regular sections: Original Research, Review Articles, Studies and articles, Book Reviews, Case Studies, and is published twice a year. This journal provides an immediate open access to its contents, which makes research results available to the public based on the global exchange of knowledge. The journal also offers access to uncorrected and corrected proofs of articles before they are published.

The primary **aim** of IJCRSEE is to provide relevant scientific results for novice and expert scholars and to enable researchers to publish and share their work with the academe throughout the world. The aim of the journal is to promote and strengthen the quality of research in the field of science, engineering and education.

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The submission file is in OpenOffice, Microsoft Word, RTF, or WordPerfect document file format.

Where available, URLs for the references have been provided.

The text is single-spaced; uses a 12-point font; employs italics, rather than underlining (except with URL addresses); and all illustrations, figures, and tables are placed within the text at the appropriate points, rather than at the end.

The text adheres to the stylistic and bibliographic requirements outlined in the Author Guidelines, which can be found in the section ***About the Journal***.

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Based on the reviewers' comments the Chief Editor makes a decision to:

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- Accept after revision
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After review a manuscript goes to the Copy Editor who will correct the manuscript concerning the correct referencing system, confirmation with the journal style and layout. When Copy Editor finishes his/her work they send manuscripts to the Layout editor.

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This issue has 12 articles (8 original research and 4 studies and article). Our future plan is to increase the number of quality research papers from all fields of science, engineering and

education. The editors seek to publish articles from a wide variety of academic disciplines and substantive fields; they are looking forward to substantial improvement of educational processes and outcomes.

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EDUCATIONAL CONCEPT FOR SAFE SECONDARY SCHOOLS IN REPUBLIC OF MACEDONIA (GOOD PRACTICES, CONCLUSIONS, RECOMMENDATIONS)

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educational concept.

ABSTRACT

The research focus of this work raises the issue that refers to the assessment of the effects of the project models for safe schools, which are derived from the National Strategy for Reducing Violence in Schools in Republic of Macedonia (2012-2015) through promoting a sustainable educational concept for safe secondary schools. This work offers answers, in the form of conclusions to the stated questions, such as: whether, and how much do the project models, which are realized in secondary schools, supported and in a "dialectic" relation with the relevant educational institutions from the governmental and non-governmental sector (Ministry of Education and Science, the municipalities, and non-governmental organizations), achieve the primary goal; what are the benefits from the implementation; and what are the models of sustainability? The goal of the research is to assess the conceptual insights and efficiency of the projects, and their influence on strengthening the educational concept of securing a safe school environment in secondary schools in R. Macedonia. Research of this issue is done with assessment research. Due to the complex and diverse nature of the issue under investigation, primary significance is given to the views and needs of all the relevant factors involved in the process. This benefits the idea that the research is of empirical character. It is also supposed that the conceptual insights of the projects have a positive influence on strengthening the educational concept for securing a safe school environment in secondary schools in Republic of Macedonia.

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1. INTRODUCTION

Improving the quality of education is an existing problem, which can be explored from several aspects. The introduction of the project models is aimed towards implicitly improving the inter-ethnic relations through education, and "intervening" in the process of securing a safe environment in secondary schools. Such an educational concept, set in this manner, in a global framework means strengthening and supporting the relevant factors in the field of education in R. Macedonia. According to analogy, the need arises for consistency and continuity of the project models through their integration in the educational system on a national level.

This topic additionally implies new challenges being placed in front of the schools and generally the whole society, in the direction of preparing an educational policy for consistent strengthening of the capacities of all of the relevant factors, with the goal of more efficient handling of the challenges from the field of securing a safe school environment.

Hence, the need arises for establishing a system, which is treated in this work as an educational concept integrating the indirect

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consumers (pupils) of the existing education and living in a present real-life context, as in the near future they will be active creators of a civil society. It is obvious that in this educational context, in a successive and simultaneous sense, such a significant role is played by the staff of teachers and the school services. On the other hand, in the "chain" of the educational concept, family is an important "link", taking up a justified place for their views and perception of a safe school environment for their children.

The project models for safe schools, which have just started to be implemented in educational policy and practice, are aimed towards improving and strengthening the good practices in the context of the school climate, and intervening in the recognition, reaction, and reduction of any kind of violence among secondary school peers.

1.1. Defining the term "safe schools"

The responsibility of the adults for creating even better conditions for safe growth and development of children is stated in the UN Convention on the Rights of the Child. Namely, in Article 19, Chapter 1, the responsibility of the country-signees is determined: *"to take all the legislative and administrative, social and educational measures for protection of the child from every type of physical or mental violence, abuse, neglect, bad behavior, mistreatment, or exploitation, including sexual abuse."* In addition, in Article 28, Chapter 2, it is declared that *"the member countries are taking all the appropriate measures for discipline in schools to be conducted in accordance with human dignity and this Convention"* (Ministry of Education and Science, 2012).

In the past decade in R. Macedonia, the media, the Ministry of Internal Affairs and many non-governmental organizations reported on dramatic and shocking violent incidents that have left all of us disturbed and surprised by the scope of potential of school violence. The Concept for the Nine-Year Primary Education by the Bureau of Education and the Ministry of Education and Science is linked to the basic principles set early in primary school, where it has been stated that the school itself will take every security measure in place:

a) an environment that does not represent a potential or real-life threat for the pupils' physical health and integrity;

b) a positive psycho-social climate in the school;

c) regular and consistent sensitive following of the principle of non-violence in any shape;

d) opportunities for all the pupils during the school year to acquire skills and insights as to how to keep and improve their health, as well as to handle stress and solve conflict situations with non-violent methods (Ministry of Education and Science and Bureau for the Development of Education, 2007).

1.2. Defining violence

There are many definitions of violence, and each one defines the intention of inflicting harm to another person, which in fact makes violence different from other negative occurrences. In this sense, violence will be defined in the function of its recognition, timely reaction, impeding, and sanctioning.

According to the World Health Organization, **"violence"** refers to any kind of intentional use of physical and psychological power. Violence can appear in the form of a threat or include the use of force directed towards oneself, another person, or a whole group/community. It ends (or it can end) with physical damage, death, psychological damage, or developmental impairment (World Health Organization, 2002).

1.3. Approach based on the whole school community

In order for there to be efficient obstruction of violence, schools must take into consideration the approach based on the whole school community, which focuses on the safety and well-being of all the school practices. The approach based on the whole school community has a variety of positive aspects. It is based on the concept of connecting the children with their families (home), their peers, and their teachers (at school) in the framework of a community, as part of the wider community.

The approach based on the whole school community emphasizes school violence as a collective challenge. Such an approach towards this issue involves the whole school community, including the children, the young, the teachers and the school services, the parents, the educational institutions, the local community, as well as the outer local and international organizations, and it is aimed to-

wards raising consciousness of the factors of risk or school violence and providing the pupils and school staff with skills for the development of protection measures. This approach is described in more detail in the "Reducing Violence in Schools – How to Change Things" Handbook, published by UNICEF, Skopje, Program of the Council of Europe (UNICEF, 2006).

However, the approach based on the whole school community depends on the mutual support among the members of the school community and their understanding for the key moral values, such as: responsibility, respect, trust, righteousness, care for oneself and for the others, civil responsibility, etc. The school approach additionally reduces the cases of violent behavior through strengthening the relations between the pupils and the school staff. In such a way the emotional health, well-being, and potential for learning is being supported (Cowie, H. and Jennifer, D., 2007).

2. MATERIALS AND METHODS

2.1. Subject of research

The subject of this research is the effects of the conceptual setting of the project from the very start of its implementation on the improvement and reduction of violence among pupils in secondary schools. At the same time the focus of the research is placed on its influence on strengthening the educational concept for securing a safe school environment in R. Macedonia.

2.2. Aim and character of the research

The aim of the research is assessing the conceptual setting and efficiency of the educational project models for the promotion of the prevention and intervention of school violence and their influence on strengthening the educational concept for securing a safe school environment. According to its character, it has the characteristics of an evaluative, empirical and theoretical research.

2.3. Research tasks

The character, multi-layering and comprehensiveness of such a research results in the realization of several tasks, grouped according the predictable steps of doing research.

1. Doing an analysis of the conceptual setting of the project models.
2. Exploring the views and educational needs of the pupils for the implementation of the project models.
3. Exploring the views and needs of the school services for the implementation of the project models.
4. Exploring the views and educational needs of the teachers involved in the project models.
5. Exploring the views of the parents for the implementation of the project models.

2.4. Research hypotheses

General hypothesis

It is thought that the conceptual setting and the implementation of the project models for the promotion and prevention of school violence as an educational concept of this research will positively influence the strengthening and ensuring of a safe school climate, reduction of violent acts, and improvement of inter-ethnic relations in secondary schools.

Separate hypotheses

1. Implementing the project models positively influences the views and educational needs of the pupils.
2. There is a statistically significant difference in the views of the pupils from different communities regarding the implementation of the project models.
3. The school services have positive views regarding the conceptual setting and implementation of the project models.
4. The school services have educational needs for the implementation of the project models.
5. Teachers have educational needs for the implementation of the project models.
6. Parents have positive views regarding the implementation of the project models.

2.5. Methods of research

This research employed several methods in order to provide quality insights: analysis (structural and content), synthesis, description, induction, and generalization.

2.6. Techniques and instruments of research

This research employed the following techniques: analysis of relevant pedagogical documentation, and surveying.

Research equivalents of the techniques are the following research instruments:

Participant questionnaire (P/U-2015);

Questionnaire for the school services (P/PS-2015);

Teacher questionnaire (P/N-2015);

Parent questionnaire (P/R-2015).

2.7. Population and research sample

This research covered a variety of samples:

2.7.1. Sample of communities

The project models were realized in 6 (six) communities of multi-ethnic variety on the territory of R. Macedonia.

2.7.2. Sample of secondary schools

The project models were realized in state secondary schools: the general and vocational stream in the given communities. They were realized in a total of 24 (twenty-four) secondary schools.

2.7.3. Sample of pupils

Pupils from each year (i.e. first, second, third and fourth year) from every secondary project school were included as a separate sub-sample in the project models. Every class determined three pupils that were directly involved in the whole project cycle. Of all the pupils included in the project models, a choice was made of three or four pupils in the framework of the school team involved in the project. 356 pupils took part in the research (***Note:*** Between 500 and 560 pupils participated in the realization of the project activities in the project schools (in the period between 2012 and 2014). The research covered a total of **356 pupils**).

2.7.4. Sample of members of school services

For successful realization of the project models it was necessary to involve the school services (pedagogical-psychological staff). On a school level one representative of this team was designated to play the role of a school coordinator of the project team. 41 members of this staff were involved in the research (***Note:*** Almost all the members of the school services (i.e. over 50) have successively been involved in the realization of the project activities in the schools (in the period between 2012 and 2014). The research covered a total of **41 school services members**).

2.7.5. Sample of teachers

A separate sub-sample of the project models involved teachers of secondary schools. 182 teachers participated in the research.

2.7.6. Sample of parents

At least 4 (four) parents were involved in the project activities of every secondary school, and at the same time they were part of the school team for safe schools. A total of 58 parents took part in the research.

3. ANALYSIS OF RESULTS AND DISCUSSION

Results and discussion - pupils

The data demonstrate numerous questions and dilemmas that deserve serious further analysis and reexamination of one's views and thoughts on the relevant factors that make up the choice of participants. The question posed was: Were the excellent pupils chosen because of a model of non-violent behavior or was it that these pupils might have more developed leadership skills among the other pupils as opposed to the pupils who have lower achievements, or maybe in the choice of pupils it was a question of "a dose of prejudice" towards the pupils with lower achievements following the idea that "he/she who manifests

violent behavior cannot answer to the requests of strengthening the concept of safe schools through manifesting non-violent behavior"? Research-wise it is right to stress that the expectations regarding the question: *Where does violence take place (different types)* move in an unexpected direction, i.e. the classroom is the place where violent acts happen the most, as opposed to the expectations of the research team that specifically that place should be the safest organized unit.

According to the analyzed data the conclusion that is brought is that in the future more work should be done on this component of the project, i.e. there should be work done on strengthening the pupils' abilities to discover and recognize the different types of violence as well as their encouragement in taking the next adequate steps. On the other hand, though, the reason for insecurity and absence of personal safety in school can be gathered from the statement by the pupils, according to who violent acts do take place in the classroom (Table 1).

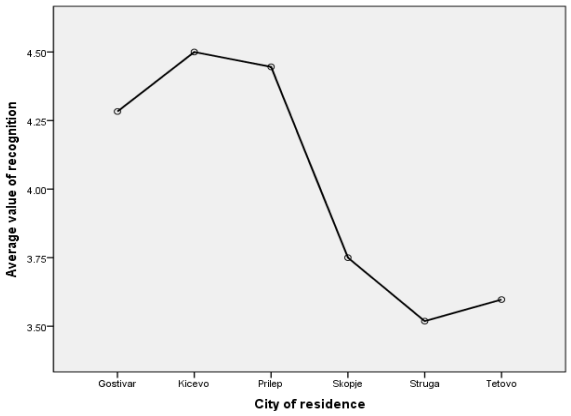
Table 1. Question 2: Where do the following types of violence take place?

		N	%	C%
Where have violent acts taken place?	Classroom	438	36.7	143.1
	School hall	163	13.6	53.3
	School yard	223	18.7	72.9
	Close to the school	228	19.1	74.5
	In public	143	12.0	46.7

This research yet again places its focus on questions related to the initial conceptual setting of the project models. Namely, in the extra-curricular activities of the type: sports competitions and fair play tournaments, trainings on the topic of non-violent communication, organized school days dedicated to non-violence, creation of posters, school clubs for mediators, etc., the models of non-violent behavior are creatively and directly promoted, with the pupils themselves being their active creators.

The relevance of this data confirms the conclusion of the positive and functional reflection of the project mission on the views and behaviors of the pupils in their everyday life in multi-ethnic environments. Following this and other data from the research with the other target groups, which when cross-analyzed gave the same results, the need evolved for continuation and expansion with the realization of the project models with a broader sample of secondary school pupils, as well as for simultaneously starting with its realization even at an early school age.

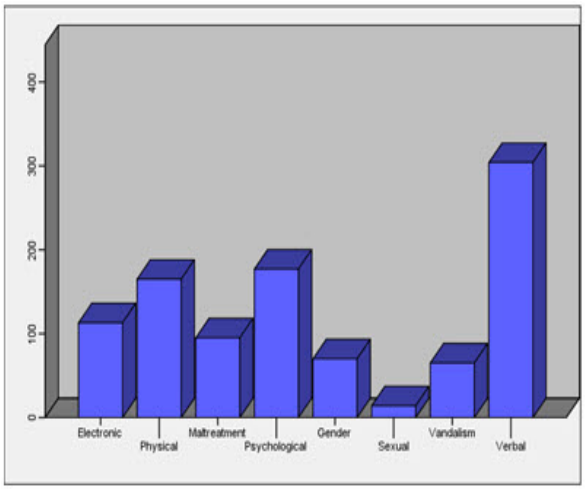
Stating the numerous topics for trainings and workshops for the prevention and overcoming of violent behavior by the pupils does not merely represent an analogy of knowledge from that field, but in fact it points to the developed consciousness of the pupils for strengthening their knowledge and developing moral values necessary in a contemporary civil society, as practical models for the prevention and overcoming of violent behavior among peers, regardless of their ethnic "substance". There is a relatively large variety of statements among the pupils on the level of cities, regarding "the mechanisms for the recognition of violent behavior and encouragement for stating them." The concluding insights once again confirm the hypothesis of the existence of differences in the views of the pupils from different communities on the implementation of the project models (Graph 1).



Graph 1. Ilustrative portrayal of the average value of the cities with project models according to the level of recognition of violence

Results and discussion - teachers

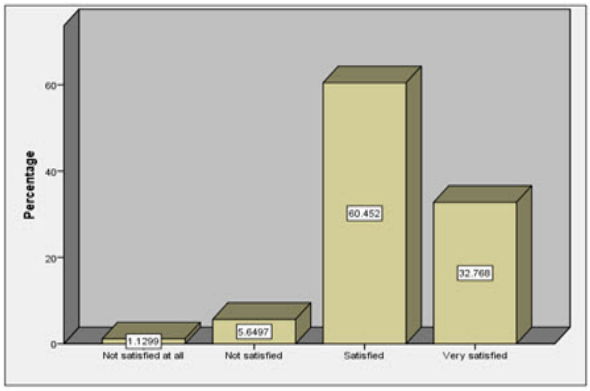
It has been determined that the correlation between the categories of frequency of violence among pupils is connected to the views of the secondary school pupils, which further confirms the consistency of the views of both participant-groups in the questionnaire (Graph 2).



Graph 2. Types of violece according to teachers

The data confirm the hypothetical framework, according to which the conceptual setting of the project models, which predict "a corpus" of trainings and workshops as "a mid-goal", set the professional competence of the teachers and represent a significant element in the mosaic of improving one's quality of life in safe school environments, hence having the epithet – multi-ethnic.

The qualitative analysis of the data, according to which the teachers argument the benefits of the project, demonstrate that the project models influence the formation of the pupils' views and the decrease of physical and verbal violence, while at the same time increasing their degree of tolerance. Furthermore, the extra-curricular activities contribute to leading quality classroom and extra-classroom "situations" by supporting the continued communication among the pupils of different ethnicities, while developing the model of "safe participants" in the environment in which they work.



Graph 3. How satisfied are you by the project models

Through the promotion of a mutual and friendly relationship and cooperation among the young, the stereotypes and prejudices of "the other one different from me in language, culture and religion" are being overcome. The teachers firmly state that this model is projected even among the teaching staff of different ethnic communities. A recommendation from the research is that there is a need for analysis of the study programs of the institutions of higher education that create teachers for secondary school as well as for creating study programs/teaching content from the field of multicultural education. The relevance of the data received greatly benefits the conclusion of a positive and functional reflection of "the project mission" on the views and behaviors of teachers in their everyday life in multiethnic environments. Following these and other data from the research with the other target groups, which through cross-analysis give the same result, the need arises for continuation and expansion of the project models with a broader sample of secondary school population, as well as for simultaneously starting its realization from the early school age.

Results and discussion - school services

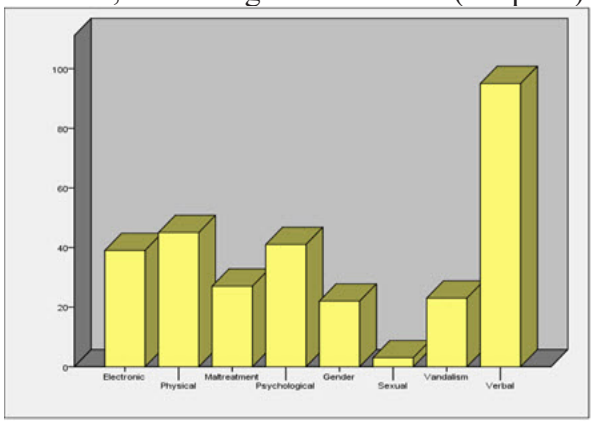
If one takes the approach of comparative analysis of the data received from analyzing the views of the teachers and the school services, regarding the frequency of violent acts among the secondary school population, it can be stated that the school services note a higher frequency in regards to the dynamics of the violent acts (Table 2).

	f	%	C%
Never	55	26.4	141.0
Several times a year	69	33.2	176.9
Several times a month	48	23.1	123.1
Once a week	14	6.7	35.9
Daily	22	10.6	56.4
Total:		100%	

Table 2. Question 1: How often is violence manifested in your school?

According to the ranking of the type of violence, the school services place verbal violence among pupils of secondary school at the top, followed by physical violence, then psychological violence, and cyber-

violence (cyber-bullying) as a new type of violence, according to its nature (Graph 4).



Graph 4. Types of violence according to school services

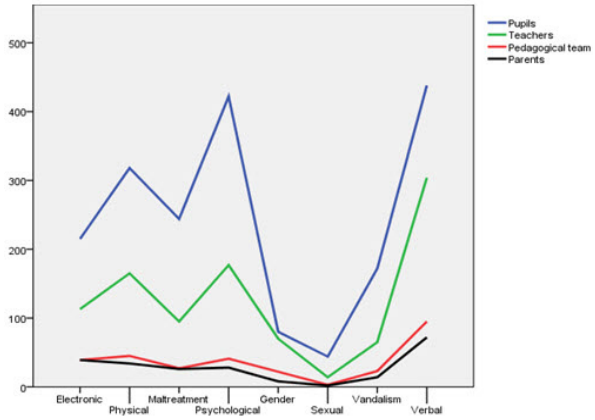
The qualitative analysis of the data, according to which the school services give their arguments for the project benefits, have an influence on the formation of the pupils' views and the decrease of physical and verbal violence, while increasing their degree of tolerance.

Results and discussion - parents

The analyzed data illustrate the idea that the parents have relatively positive views regarding school safety. The comparative analysis of this data with the data received from the analyzed views of the pupils (in this case, their children) points to the fact that there is a high level of correlation in regards to the perception of their personal safety in the school.

The data received prove that the greater percentage of the parents think that they had "never" noticed violence in the school, while another significant percentage stated that there had been violent acts among pupils "several times a year". According to the views of the analyzed parents it can be concluded that the parents involved showed openness to cooperation in the project activities.

The data presented in Graph 5 represent a comparative analysis of the insights gained of every category regarding the types of violence that are manifested among the secondary school population.



Graph 5. Types of violence according to all the participants in the research

From the above-given summarized analyses one can confirm the importance of sustainability and a proper setting of the project models in secondary schools, and in this direction, confirm the general hypothesis of this research, according to which the conceptual setting and implementation of the project models for the promotion of the prevention and intervention of school violence as an educational concept, positively influence the strengthening and securing of a safe school environment, as well as the decrease of violence and improvement of the multi-ethnic relations in secondary schools.

4. CONCLUSION

According to the analyzed data the logical conclusion is that in the future more work should be done on strengthening the pupils' and teachers' abilities regarding being introduced to and recognizing the different kinds of violence, as well as encouragement in taking the appropriate steps.

The realization of this educational concept should start as early as the pre-school age, i.e. in primary school, with the aim of providing continuity of the process and prevention from an early age. However, on the other hand, the cause of insecurity and absence of personal safety can be found in the statements of the pupils that have come forward and according to which violence happens in schools.

Through the extracurricular activities of the following type – sports competitions and fair play tournaments, trainings on the topic of non-violent communication, organized school days dedicated to violence, the creation of posters, school clubs for mediators, etc. – the models of non-violent behavior are being cre-

atively and directly promoted, while the pupils themselves are the active creators and participants.

One of the reasons for hiding violence is that the pupils are uninformed concerning the manner of following the appropriate procedures. A second reason would be the existence of fear and insecurity among the young, as an indicator that should be treated seriously by the relevant institutions and other experts. In addition, a third reason is the fear and insecurity regarding revealing their identity and the possible repercussions that might happen if the pupils are uncovered in society.

The relevance of the data that was received benefits the conclusion of a positive and functional reflection of the project mission on the views and attitudes of the pupils and teachers in everyday life in multi-ethnic societies. Thus, following these and other data from the research with other target groups, which through cross-analysis give the same result, there has been imposed the need for continuation and expansion with the realization of the project models, with a wider sample of high-school population, as well as the need for simultaneously starting the realization even in the early school age.

It is necessary to organize "a corpus" of trainings and workshops that place the professional competence of the teachers and their assistants as a subsidiary goal, being an extremely significant "element" in "the mosaic" of raising the quality of life in safe school environments, with the adjective: multi-ethnic.

General Recommendations

- Establishing a national policy, procedures, and mechanisms for prevention and handling of violence in schools.
- Mutual defining of violent behavior in order to start a dialogue for the creation of preventative activities and activities for handling violent behavior.
- Responsibility-taking and participation of all the members of the school community in the creation and establishing of preventative measures as well as measures for handling violent behavior.
- Developing a school policy, procedures, and protocols for prevention and handling violent behavior.
- Reviving the topic of kinds of violence.
- Promoting knowledge of and skills for non-violence.
- Establishing activities and programs for being introduced to and showing respect for differences, cooperation, and mutual activities among pupils of different groups.
- More cooperation between schools and the local community, other institutions and organizations, with the goal of enabling full social care and protection of pupils' rights.

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Conflict of interests

The authors declare no conflict of interest.

REFERENCES

Cowie, H., & Jennifer, D. (2007). *Managing violence in schools: A whole-school approach to Best Practice*. Sage.

Ministry of Education and Science (2012). *Strategy for Reducing Violence in Schools 2012-2015.* Skopje.

Ministry of Education and Science and Bureau for the Development of Education (2007). *Concept for the Nine-Year Elementary Education*

UNICEF (2006). *Reducing Violence in Schools – How to Change Things*, Skopje. [Намалување на насилството во училиштата – како да се сменат нештата], Council of Europe. Retrieved from http://www.unicef.org/tfyrmacedonia/ViolenceHandbook_MKD.pdf

World Health Organization (2002). *World Report on Violence and Health*. Retrieved from http://www.who.int/violence_injury_prevention/index.html

IMPORTANCE OF COMPUTER TECHNOLOGY IN REALIZATION OF CULTURAL AND EDUCATIONAL TASKS OF PRESCHOOL INSTITUTIONS

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ABSTRACT

The rapid scientific and technological development imposes numerous changes in all spheres of life and work. In such circumstances, a computer has become a part of all aspects of life: economy, education, free time, family. Since children in contemporary society increasingly acquire knowledge before the school age, the question is how to prepare them for the world in which we live, bearing in mind how significantly different it is from the world in which the previous generations grew up.

The research was aimed at examining the attitudes of preschool teachers about the importance of computers in the realization of educational activities in preschool institutions. The study included 54 teachers from Kosovo and Metohija: Kosovska Mitrovica, Donja Gušterica and Ropotovo. The research results indicate that digital technology is a very important and a useful didactic tool in the realization of educational activities in preschool institutions and that preschool teachers have the required competence to implement the technology. However, they are not satisfied with the quality of their ICT education and training during their studies; they also feel that their institutions do not provide adequate working conditions for the use of computers in the realization of educational tasks.

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1. INTRODUCTION

One of the most important tasks of educational work at the present stage of social development is improving the efficacy of the existing means, methods, and forms of work, as well as finding new and more effecient ones. In order to complete the set tasks, modern technology found its way to preschool institutions; it is gradually implemented with the content being adapted to different age groups, levels, and forms of education. Realization of the preschool program includes creating the conditions for the use of computers in their work with children; in relation to the mentioned age there is an essential specificity in the planning and delivery of educational activities.

Unlike the primary education, activities with preschool children are organized through games, which encourage the development of their total potential, preparing them for school, as well as life in general, which is one more reason that computersshould have a place in their playing and learning (Kopas-Vukašinović, 2007, pp. 774). The possibility of introducing new media and technologies in the educational work with children of preschool age is indicated by the results of various studieswhich show "that at the age of three years and 7 months, children are alreadyable to learn to independently use a computer, in degree to which it meets their needs, while early two-year-olds can "handle a computer mouse" (Andevski, Arsenijević, 2011, pp. 26). In the light of the problem which is the primary focus of this paper, an interesting study conducted by the Association of preschool teachers of Belgrade in 2007, which examined 1,008 parents of children ages 3 to 7, showed

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that 79% of the children has access to acomputer. In addition, children aged 3 to 6 years old on average spend two hours ata computerorTV, while the children of 6 or more spend exponentially more time in front of the screen (Anđelković, 2008a, pp. 64-71).

The use of computers in preschool period is associated with cognitive and social development of children. Children who have access to a computer perform better in preparation, ie. school readiness, indicating that access to the computer during the preschool period is related to the development of preschool concepts and ideas (Veličković, 2014, pp. 377). Computer access in preschool institutions helps children to overcome the differences that result from not having access to it at home and gives them a fair chance to participate in the group activities and closes the gap that exists between the children with and without a computer (Creaseyetal., 1998. pp. 118).

During the realization of educational tasks in preschool institutions, particular attention should be placed on the developmental milestones and specifities of the age.The development of children under three years of age is characterized by specific physical, perceptual, and sensory cognition of their body and the world around them. During this period the children, above all, learn to walk, run, speak, and enter into social relationships with other children and people in their immediate and distant environment; they experience the world mainly through their senses – eyesight, hearing, taste, smell, and touch. The information technology can, in a specific and simplified way, be a part of a child's experience, however, its impact on this age group is not significant and it does not represent the real needs of a child (Anđelković, 2008b, pp.78). Nonetheless, after the age of three, children are able to learn how to independently use a computer. Therefore,the implementation of information technology in the educational work in this period satisfies their needs and interests, as confirmed by the results of the above study.

In addition to the expressed views, observations, analysis of empirical research results, and conclusions in favor of the implementation of ICT, the technology can also teach children to think and can be used enhance the quality of the educational system at any level. On the other hand, some authors express "apprehension" that the use of a computer can lead to poorer mastery of elementary operations such as reading, writing, and arithmetic.Furthermore, there are fears that a child who spends too much time at acomputer, can become isolated and deprived of social relationships that are necessary for their overall development.

The most common issues raised in relation to computer use are:

- health threats,
- possible addiction,
- changes of child's interests,
- threat to the acquisition of basic operational skills (preschool and school),
- threatens the computer preschool teacher and teachers,
- decreased socialization and possible dehumanization of the educational process,
- threat to the preschoolteachers and their role,
- empirical evidence of better and deeper learning,
- learning to think by using a computer,
- influence on the the difference gap between the school children (Rečicki, Girtner, 2002).

Based on the results obtained by surveying the parents about the possible negative and positive consequences of the use of computers by children in the preschool period Lj. Žiropađa (Žiropađa, 2007, pp. 72) concludes that parents are most concerned with the four negative consequences:

- deviation from the classes and school activities,
- danger to physical health,
- encouraging children to aggressive behavior and
- fear that children who use a computer forget the basic skills such as writing and arithmetic.

As for the positive outcomes of computer use, parents most oftenlymention:

- English language competences,
- development of concentration andspeed of observations in children,
- reinforcement of curiosity and
- promotion of sociability and readiness for cooperation (Žiropađa, 2007, pp. 73).

Representatives of modern pedagogical thought believe that the use of computers in the realization of educational tasksat an early age embodies the right of a child to acquire rich and diverse experiences through information and communication technologies.However, despite the contention that computer education is becoming as important as basic

literacy, there are many obstacles to making it a part of the educational system atany level. In addition to the "anguish" of the negative consequences that the inadequate and inappropriate computer use can cause in children, there are many other reasons that make its application in educational work with childrendifficult. The most important among them are as follows:

- non-functional space in which educational activities with children are carried out,
- insufficient number of modern teaching aids,
- reluctance to give up old habits, as well as fear of new challenges and demands, hence the hesitation in more active implementation of the proclaimed goals and tasks,
- a large number of children in the group,
- insufficient training of educators in the field of IT technologies.

The realization of educational tasks in preschool institutions by usingcomputers sets a preschool educator before some very specific requirements, ranging from the preparation of activities through their participation in these activities by monitoring children's accomplishments. Those requirements include computer literacy, educators' insight into the quality and characteristics of the existing software for preschool children,as well as motivation and interest of preschool educators to deliver the activities by means of IT. All this requires a specific training program for preschool educators:

- basic computer skills,
- specific IT skills that are important for working with children,
- basic theoretical knowledge about the possibilities of IT application in working with children, as well as the specific areas of child development it can promote,
- the dangers of its inadequate implementation (Anđelković, 2008b, pp. 108).

2. MATERIALS AND METHODS

2.1. The subject of research

The essence of the ICT application in the educational work is aimed at overcoming the traditional understanding of the organization and delivery of educational activities at all levels of the educational system, including the preschool education.Taking into account the study and research findings presented in the previous section of the paper, it is authors'intention to point out the importance of application of modern information and communication technologies, especially computer use in the delivery and attainment of educational tasks in preschool institutions. Further attention is payed to specific problems that arise in this area.For this reason, the subject of this research is theoretical and practical study of nature and the typical problems of computer use in realization of educational tasks in preschool institutions.

2.2. The aim and objectives of research

The aim of the research is empirical and non-experimental study and analysis of the attitudes of preschool educators about the effects of their computer use, their ability to use modern means of information transfer and the conditions in which educational tasks in preschool institutions are realized.

From such a specific research aim, specific research tasks to be implemented in the process are derived:

- examine the attitudes of teachers about the importance and role of computer applications in work with preschool children,
- examine the attitudes of teachers about personal competences to use modern methods of transmission of information (computer) in work with preschool children,
- examine the attitudes of teachers about learning competencies for use of computers during the initial training;
- examine the attitudes of preschool educators about the conditions in which they organize and implement the educational process in the institutions.

2.3. Research hypotheses

The general hypothesis is:

- computer technology can be an extremely important and useful didactic tool in the delivery of the educational activities and attainment of the educational tasks. Furthermore, if

properly implemented, it can significantly contribute to the development of children's skills and advancement of educational work.

Specific hypotheses are:

- It is assumed that preschool educators believe that computers have a positive impact in working with preschool children;
- It is assumed that preschool educators are considered to possess sufficient competence to use personal computers in their work with children of preschool age,
- It is assumed that preschool educators consider their initial education instrumental in achieving the necessary competencies for the successful use of computers in working with preschool children;
- It is assumed that preschool educators believe that the institutions in which they work are adequately equipped.

2.4. The research sample

The study usedan intentional sample of 54 educators from preschool institutions in Kosovo and Metohija – Kosovka Mitrovica („Danica Jaramaz"), Donja Gušterica („Sunce") and Ropotovo („Pčelica Maja"). Since this is an intentional selection, we do not consider it representative of the whole population. However, considering the selectioncriteria (results achieved, personnel, space and technical resources), we believe that we have achieved an approximate representation of the sample for the area in which the survey was conducted. The research sample consists of preschool educators of different qualifications, age, work experience, and the different ages of theirstudents.

Table 1. Structure of the sample in relation to the qualifications of the respondents

Professional qualifications	Frequencies	Percentages
High School	9	16,7
Two year college	26	48,1
Three year college	19	35,2

Table 2. Sample structure of preschool educatiors in relation to the work experience

Years of service	Frequencies	Percentages
From 0 to 10 years	20	37,0
From 10 to 25 years	18	33,3
Over 25 years	16	29,6

Table 3. Structure of the sample in relation to the age of the children they are working with

Age	Frequencies	Percentages
Younger preschoolers	24	44,4
Medium preschool age	15	27,8
Older preschoolers	15	27,8

Table 4. Structure of the sample in relation to age of respondents

Minimum	Maximum	The arithmetic mean
25,00	53,00	41,43

2.5. Methods, techniques, research instruments

The study applied a descriptive method to describe the process, events and relations between the pedagogical phenomena which are the subject of research.The basic technique for data collection was a surveywhereby the instrument used special scales. The assessment scale was specifically designed for this study and each item is considered as a scale of attitude with organized categories. Categories range from a completely negative attitude (1.Strongly disagree), through the neutral (2.Partly agree), to a completely positive attitude (3.Strongly agree). The scale is divided into four factors, each factor representing one of the research tasks. The first factor relates to the positive impact of the use of modern information and communication technology on the behavior and personality of students. The second factor relates to the attitudes of preschool educatorstowards the necessary competences for personal use of computers in the realization of educational tasks in preschool institu-

tions. The third factor relates to the attitudes of teachers on the quality of IT training during their initial education. Finally, the fourth factor relates to the attitudes ontechnical resources of the institutions wherethey work.

2.6. Statistical data processing

Specialized software for statistical data processing (SPSS for Windows 19) was used in the study. Moreover, the statistical methods used were:

- Descriptive statistics (frequencies and percentages)
- Arithmetic mean (AM) and Standard deviation (SD)
- Analysis of variance (ANOVA)

3. RESULTS

Use of computers in the educational work with children of preschool age is of a relatively recent date, hence the changes occurring in this area are very intense and sometimes take and unexpected turn.Therefore, it is very important for teachers in preschool institutions to recognize the importance of continuous monitoring of the impact and effects of ICT on the development and learning of children, and always look for better and more efficient ways to nurture and enrichthe experiences that children inevitably acquire in our information society.

Responses to the general hypothesis of the research were obtained by dividing the hypothesis into several more specific hypotheses and grouping the responses accordingly for better understanding. The first specific hypothesis was tested by measuring the degree of expressiveness of the positive impact of computer use by comparing the average scores (ANOVA).Analysis of the results (Table no. 5) shows that computers have a positive impact on the work with preschool children, as teachers largely believe that the application of computers enhances working habitsencourages children to acquire new knowledge.

Table 5. Expressiveness of attitudeon the positive impact of computers in working with preschool children

Factor 1	Minimum	Maximum	AM	SD
The positive impact of computers	6,00	15,00	11,81	2,40
Question 1 - encourages working mood	2,00	3,00	2,67	,48
Question 2 - encourages the development of thinking	1,00	3,00	2,37	,73
Question 3 - encourages the development of autonomy in children	1,00	3,00	1,94	,83
Question 4 - encourages logical reasoning	1,00	3,00	2,13	,67
Question 5 - encourages the acquisition of new knowledge	1,00	3,00	2,70	,54

The second specific hypothesis was tested by measuring the degree of expressiveness of personal competencies of teachers by comparing the average scores (ANOVA). Analysis of the results (Table 6) shows that preschool educators largely believe that they have a good command of modern operating systems, as well as a good grasp of the right way to use the web and different software for the planning and delivery of activities in preschool institutions.

Table 6. Expressiveness ofattitude in personal competencies of teachers

Factor 2	Minimum	Maximum	AM	SD
Personal competence of preschool educators	4,00	12,00	9,54	2,34
Question 6 - Uses modern operating system	1,00	3,00	2,57	0,57
Question 7 - Uses the web and other applications	1,00	3,00	2,41	0,74
Question 8 - Informs and instruct a child on how to use a computer	1,00	3,00	2,19	0,78
Question 9 - There are adequate competence for innovative information management	1,00	3,00	2,37	0,73

The third specific hypothesis was tested by measuring the degree of expressiveness of the quality of IT training thepreschool educatorshad during their initial education by comparing the average scores (ANOVA).The result ananlysis (Table no. 7) shows that preschool educators largely believe that the curriculum of higher education institutions that they have completeddoes not cater to the demands of IT education imposed by the modern information society and that it is not in accordance with the basic characteristics of the development of modern society.

Table 7. Expressiveness of attitude on the quality of IT education during initial education

Factor 3	Minimum	Maximum	AM	SD
The quality of IT education	27,00	23,00	25,61	1,00
Question 10 – Curriculum of IT training during initial education is adapted to the requirements of the information society	3,00	1,00	2,89	0,42
Question 11 – Curriculum of IT training during initial education is contemporary and promoted	3,00	1,00	1,93	0,64
Question 12 – Curriculum of IT training program during the initial education is in line with the characteristics of the development of society	3,00	2,00	2,80	0,41
Question 13 - Curriculum of IT and computer education program has been designed in accordance with the confirmed positive examples	3,00	1,00	1,65	0,55

Examination of the fourth special hypothesis was done by measuring the degree of expressiveness of the technical resources ofthe surveyed institution by comparing the average scores (ANOVA).Analysis of the results (Table no. 8) shows that preschool educators largely believe that the institutions in which they work cannot provide the necessary conditions for the realization of educational tasks by way of ICT, because they do not have adequate information and communication technology. Furthermore, neither educators nor the students have access to computers. In addition, there is no required continuity in training the teachers to use coputers in their professional work. Plus, the internet access is very limited.

Table 8. Expressiveness of attitude on the equipment of the institution where the preschool educatorsworks

Factor 4	Minimum	Maximum	AM	SD
Equipped institutions	5,00	13,00	5,78	1,30
Question 14 - Owns modern computers	1,00	3,00	1,30	0,54
Question 15 - Access to a computer for preschool educators	1,00	2,00	1,09	0,29
Question 16 - Allows the child to access to the computer	1,00	2,00	1,04	0,19
Question 17 - Allows education and training	1,00	3,00	1,24	0,58
Question 18 - It has a high-quality internet connection	1,00	3,00	1,11	0,42

4. DISCUSSION AND CONCLUSION

Responses to the first group of research tasks indicate that the main hypothesis was confirmed that the organization of educational activities and the implementation of educational tasks in preschool institution are largely more effective with the help of computer technology. A computer is an extremely important and useful didactic tool that, if properly implemented, significantly contributes to the development of children skills and advancement of educational work. In addition, the first specific hypothesis confirms this general conclusion because teachers believe that the implementation of computer technology has a positive impact on their work with preschool children, especially in encouraging working mood in children and in acquiring new knowledge.

Survey results from the second group of tasks, show that preschool educators have good command of modern operating systems, and that they are trained to properly use the web and application software for planning and delivering the activities, which is confirmed

by the second specific hypothesis that teachers consider to have sufficient personal competence in the use of computers in their work with preschool children.

Based on the analysis of the responses in the third group of tasks, it can be concluded that the third specific hypothesis is not confirmed because preschool educators believe that their IT training during initial education is not sufficient for the successful implementation of computer technology in their work with preschool children. Obtainedanswers indicate that they are not particularly satisfied with the quality of the IT curriculum. They feel that it is not at the level required by the modern society.It is evident that the results of the study demonstrate a significant gap between the digital competences educators consider they possess and what they think about the quality of IT training during their initial education.The disproportion of the results suggests that preschool educators acquired most of their digital skills and competences through various forms of informal education on their own.

Finally, the fourth specific hipothesis has not been confirmed as well. The reponses argue that the working conditions and the technical resources of the surveyed institutions are insufficient for the successful implementation of computer technologz and the delivery of the planned activities.

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Conflict of interests

The authors declare no conflict of interest.

REFERENCES

Andevski, M. & Arsenijević, J. (2011). Kompetencije vaspitača za upotrebu novih medija i tehnologija. U Grujić T (ur.). Kompetencije vaspitača za družzvo znanja (25-34). *Zbornik radova VSSSOV,* 4(2), Kikinda: Visoka škola strukovnih studija za obrazovanje vaspitača.

Anđelković, N. (2008a). Informaciona tehnologija u predškolskom vaspitanju i obrazovanju. *Zbornik radova Tehnika i informatika u obrazovanju, TIO,* 8, 65-70.

Anđelković, N. (2008b). *Dete i računar u porodici i dečijem vrtiću*. Beograd: Beoknjiga.

Creasey, J.,Jarvis, P., Berk, L. (1998). Play and social competence. In O. Saracho & B Spodek (Eds.), *Multiple perspectives on play in early childhood education* (116-143). NewYork: SunyPress.

Kopas-Vukašinović, E. (2007). Kompjuter kao igračka. U Danilović, M. i Popov, S. (prir.), *Tehnologija, informatika i obrazovanje* IV (772-777). Beograd: Institut za pedagoška istraživanja;Novi Sad: Centar za razvoj i primenu nauke, tehnologije i informatike, Prirodno-matematički fakultet

Rečicki, Ž., & Girtner, Ž. (2002). *Dete i kompjuter.* Beograd: Zavod za udžbenike i nastavna sredstva.

Veličković, S. (2014). Edukacija vaspitača za primenu IKT u vrtiću. U (prir.). Uticaj interneta na poslovanje u Srbiji i svetu (375-378). P*rva Međunarodna naučna konferencija Sinteza* 2014. Beograd: Univerzitet Singidunum.

Žiropađa, Lj (2007). Dete i komjuter-očekivanja i strepnje roditelja. *Nastava i vaspitanje*, 36(1), 66-75.

THE INFLUENCE OF THE EMOTIONAL INTELIGENCE IN PROTECTION OF THE MENTAL HEALTH IN CONDITIONS OF A PSYCHOSOCIAL STRESS

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ABSTRACT

If our time is stressful, than protecting and promoting of our mental health is imperative of the time that is coming. In modern literature there is a huge interest for the determination of the mental health of the emotional intelligence, which is treated as a factor for it's keeping and development. This paper is based on the assumption that the emotional intelligence has considerable contribution for understanding the relationship between psychosocial stress and mental health, seen through three important variables: self-confidence, depression and aggressiveness. In the research were included 72 people, and for variables' measurement are used: questionnaire for measuring emotional intelligence (PK-45), stress inventory and questionnaire for emotional structure of the person- Profile index of emotions. The results from the regressive analyses showed that stress is connected to the three indicators of the mental health. People with low emotional intelligence react with lower self-confidence and high depression and aggressiveness in stressful situations. The two competencies of emotional intelligence (EI) - self consciousness and social consciousness statistically are different from the other relevant measures which show that EI is important thing in understanding the relationship between the stress and mental health.

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1. INTRODUCTION

The preservation of our life and health are in direct dependence from constancy storage of our inner psychological balance, i.e., homeostasis balance in terms of the continuing challenges of the changing environment (Bernard, 1961). The famous authority of the area of study of stress Halls use the term "stress" to present the effects of the are what seriously threatens the homeostasis imbalance of the body. According to him, the real or perceived threat to the organism are called "stressor", and the reaction to which leads is the "response to stress" (Selye, 1956). Although responses to stress are adaptive processes, Sally noticed that extension responses to stress can lead to various kinds of diseases. The adverse effects of chronic stress on health are increasing, due to the challenges of modern living which abound with a wide range of adverse living and working conditions.

The relationship between the levels stress and chronic diseases is complex. He is under the influence of the stressor, as well as at the individual (genetic structure and learned patterns of coping). This paper focuses on some psychological factors in dealing with stress.

The primary objective of this paper is to elaborate on the relationship between stress and mental health, as well as to assess the role of emotional intelligence in this context. Numerous researchers (Lazarus and Folkman, 1984, Goleman,1998, Kessing et al., 2003),

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believe that people who are skilled in regulating own and others emotions may be better able to protect themselves from the negative effects of stress, report less depression, aggression and higher self-esteem, (Hammen, 2005).

1.1. Sanity and pressure

There are numerous studies that provide valid indicators for the consequences of stress on mental health among different age levels. Numerous studies have shown that exposure to intense and chronic stressors during the developmental years has long-lasting neurobiological consequences and increases the risk for anxiety and depression, problems with control of aggressiveness, hypo-immune dysfunction, structural changes in the CNS and early death, (Shaw 2003). As the most frequent stressors in children and adolescents are indicated: violence, abuse and marital conflicts, (Cicchetti, D. and Toth, S. L., 1995).

As a very frequent psychological consequences of stress in the mature years are listed anxiety and depression. It is known that the first depressive episodes developed after the onset of significant negative life events. There is evidence that stressful life events are the cause for the onset of depression (Hammen, 2005). A study with 13 006 patients in Denmark, who had diagnosted depression, showed the stressful events that predating almost before the emergence of difficulty, such as: separation, unemployment,swizz from a close relative, in relation to the control group (Kessing et al., 2003). The diagnosis of a more serious medical illness are considered to be a heavy stress and is often accompanied by high rates of depression (Kessing et al., 2003).

1.2. Emotional competence as protective factors in responses to stress

The reactions of the stress events as well as the consequences of them may vary depending on personal and environmental factors. Personal risk factors for the emergence of depression after a serious life event, a disaster or trauma include prior psychiatric history, the symptoms of neurotic, emotional immaturity,social isolation, and other variables (Kessing et al., 2003).

Protective factors that are identified include, social maturity, self-confidence, optimism and emotional competence. Pruessner showed that people with higher self-esteem had improved responses to acute stress (Pruessner et al., 1999). According to Goleman, emotional intelligence is the potential of the individual for self-awareness, self-confidence, autocrasy and social skills, which are a prerequisite for the preservation of mental health in stressful situations (Goleman, 1995). The concept of emotional intelligence is a contemporary psychological paradigm which unites two aspects of personality such as:heat or intelligence and emotion. Mayer and Salowey are the authors who introduced the concept in the psychological literature, looking at emotional intelligence as a set of skills related to processing of emotionally relevant information. Towards the middle of the nineties Goleman it was popularised the concept of emotional intelligence, has pointed out the importance in everyday life of each person and he define emotional intelligence: «Emotional intelligence consists of the competencies and skills that affect the ability of the person successfully overcomes the challenges of everyday life» (Goleman, 1995). According to Goleman emotional intelligence is the basis on which and appropriate approach to develop the emotional competencies or skills. The author lists the eighteen emotional competencies of emotional intelligence that could be used in different situations (Goleman 1998).

1.3. Psychological interventions in the prevention of mental disorders in stressful situations

Psychological interventions in dealing with stressful situations, such as the development of emotional and social competence, can have a positive effect on the preservation of the mental health (Goleman, 1995). One of the indicators of mental health is depression, the widespread disorder with a tendency of increase of the global level (Hammen, 2005). This mental disorder is associated with disruptions in social assessments, difficulties in school, loss of job, physical diseases, lead to unsatisfactory marital relations, a sense of hopelessness (Hammen, 2005). One of the major predecessors of the depression is life stress and daily hassles, (Lazarus and Folkman, 1984).Each of the key questions of psychological interventions for the protection of mental health are: are our emotions and our responses during stressful events are associated with mental, cardiac and other diseases?

How can we reduce or control stress? Whether emotional intelligence inflect the relationship between stress and mental health, measured with low self-confidence, depression, and aggressive behavior?

There is some preliminary evidence showing that psychological interventions on the development of emotional and social skills can protect people from stress and lead to better adaptation. I.e. emotional intelligence helps people in protection from the harmful effects of stress on mental health. For example,expertise governance or management of emotions is associated with the tendency to hold experimentally caused a positive mood, which has implications for the prevention of depressive conditions (Goleman, 1995). There are other studies that indicate that adolescents who say they are good at managing others emotions tend to have more social support and be more satisfied with it support, which can help in the protection against depression, aggressive outbursts, and thoughts of low personal value (Pruessner et al., 1999).

2. MATERIALS AND METHODS

The subject in this research was to examine the role of emotional intelligence on stress and its impact on mental health. The aim of the paper is to investigate whether the competencies of emotional intelligence: self-evaluation, self-regulation and social awareness (which includes regulation of the emotions of others) helps people in protection from the harmful effects of stress.In the paper it moves from a general assumption that people with a high level of emotional intelligence will be less under the influence of the stress from those with low-level, but also that adequately will react to stress without the major disorders of mental health. The primary research question in this thesis reads as follows: the extent to which emotional intelligence, represented by the competencies self-awareness, emotional, and social regulation is a moderator of the relationship between stress and mental health? It is necessary to assess whether the ability for self-evaluation, for the management of their own emotions and those of others will protect people from the negative effects of stress. It is estimated, also, the degree of influence of each of the competencies individually. Whether emotional awareness, when it is not supported by expertise autocrasy increases the sensitivity of people towards stress.The sample in this research consists of 72 participants - 32 female and 40 male, with average age of 28,6 (SD = 5,0). Variables of the research are: mental health - the dependent variable, stress – independent variable and emotional intelligence as a moderator who mediates between the two variables. From the spectrum of the psychodiagnostician instrumentarium was used the battery of implement and questionnaires which are a function of the measurement of the basic variables in the paper such as: Profile index of emotions DRINK, (Baskovic et al., 1985). Questionnaire the emotional competence PECK-45 (Takšic, 1998). The scale of psychological stress - YES, inventory of 49 statements, rated on a scale from 1 to 8, where 1 is “not at all” and 8 is “extremely”. The organization of the research was in the first half of 2015, while the research was conducted in the period September - December. 2015 in the municipality of Bitola. Statistical processing of data was made with the help of the SPSS program package.

Table 1. Correlation and intercorrelation between the variables of emotional intelligence: emotional awareness (EA), emotional regulation (ER), stress (S) and the variables of mental health: aggressiveness (A), confidence (C) and depravation (D)

	EC	EB	Pressure	A	C	D
EC	1	0,40***	0,15	0,21	0,199	0,19
EB	-	**1**	0,09	-0.12	-0,16	-0,017
Pressure	-		**1**	**0,41*** **	**0,33** **	**0,67** **
A				1	-0,35**	0,44***
C					1	0,36***
D						1

3. RESULTS AND DISCUSSION

To assess whether emotional intelligence, represented by the competencies of emotional awareness, self-regulation and social regulation (the rule with their emotions and the emotions of others), is a capability in the relationship between stress and mental health, we used the hierarchical regression analysis.

Table 2. Correlations between stress and depravation, aggressiveness and confidence among the participants with low and high emotional intelligence.

Relation with pressure	Low emotional intelligence			High emotional intelligence	
	Correlation coefficient r	Determinant coefficient **R**	K. alienation	Correlation coefficient r	Determinant coefficient **R**
Pressure –mopes	0,61**	0,372	0,628	0,29*	0.084
Pressure – aggressivness	0,51**	0,261	0,739	0,25*	0.062
Pressure confidence	0,44**	0,194	0,806	0,14	0.019

The results show that the variables of mental health are interconnected, and are also associated with stress. The competencies of emotional intelligence are related among themselves, but not significantly associated with any one variable, and it is a proof of its uniqueness. Emotional intelligence shows minimal correlation with the measures of stress and mental health, which indicates the constructive diversity.

To assess whether emotional intelligence the relationship stress-mental health, used regression analysis. The tested results in the low and high values of emotional intelligence. In table 2 shows that stress is strongly linked with mopes,aggressiveness and low self-esteem among participants with low emotional intelligenceThe interaction between the participants with high emotional intelligence shows that the relationship stress – mental health is a significant, although at lower level, and those with high emotional intelligence (Table 2.). Comparison with the findings of similar studies, as for example the research of Ciarrochi, J., Deane, F. P., and Anderson, S. (2002) indicates that the results are in the similar direction. Correlation of stress with depression among participants with high EI is statistically significant and amounts to r=0,61, and in the specified study r=0, 65. The most important findings in this paper refer to the structural uniqueness of emotional intelligence, which is suggested by the fact that it is not directly related to stress or mental health, i.e. emotional intelligence is not in significant correlation with the stress and indicators of mental health. This finding substantiates the claim that emotional intelligence is a moderator, i.e. a factor of the ratio stress-mental health.

4. CONCLUSION

The findings of this paper are in addition of great interest for the emotional intelligence and its part in the promotion of mental health. They support the argument that the competencies of the constructor are identifiable and useful, which has important implications for understanding the relationship between stress and mental health. In the paper showed that the competencies of emotional intelligence the moderating the relationship between stress and the three investigated variables of mental health: mopes, aggressiveness and level of self-esteem.These findings, which are consistent with the findings of similar research, have important practical implications for understanding the relationship between stress and mental health. The results in this paper show that individuals with low emotional intelligence are inclined in stressful situations, to react with a distortion of mental health, in comparison with individuals with high EI who less show that inclination. This supports the conclusion that the low emotionally intelligent people are in danger to impair their mental health in stressful situations and those with high emotional intelligence will respond to stress with less mopes and aggressiveness. These findings may be useful for actualize of the concept of emotional intelligence and in-

vestment in the creation and implementation of programs for its development in the function of the save of mental health in crisis situations. The research emphasizes the role of emotional intelligence in promoting mental health. However further research is needed before we can fully accept these findings.

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Conflict of interests

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REFERENCE

Baškovac-Milinković, A., Bele-Potočnik, Ž., Hruševar, B., & Rojšek, J. (1979). PIE Profil indeks emocija, priručnik. Ljubljana: *Zavod SR Slovenije za produktivnost dela Ljubljana, Centar za psihodiagnostična sredstva.*

Bernard, C., & Greene, H. C. (1957). *An introduction to the study of experimental medicine*. Courier Corporation.

Ciarrochi, J., Deane, F. P., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and individual differences,* 32(2), 197-209.

Cicchetti, D., & Toth, S. L. (1995). A developmental psychopathology perspective on child abuse and neglect. *Journal of the American Academy of Child & Adolescent Psychiatry,* 34(5), 541-565.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ* New York: Bantam Dell.

Goleman, D. (1998). *Working with Emotional Intelligence,* New York: Bantam Dell.

Hammen, C. (2005). Stress and depression. *Annu. Rev. Clin. Psychol., 1*, 293-319.

Kessing, L. V., Agerbo, E., & Mortensen, P. B. (2003). Does the impact of major stressful life events on the risk of developing depression change throughout life?. *Psychological medicine, 33(07)*, 1177-1184.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* Springer publishing company.

Pruessner, J. C., Hellhammer, D. H., & Kirschbaum, C. (1999). Burnout, perceived stress, and cortisol responses to awakening. *Psychosomatic medicine, 61(2),* 197-204.

Selye, H. (1956). *The stress of life.* New York: McGraw-Hill.

Shaw, J. A. (2003). Children exposed to war/terrorism. *Clinical Child and Family Psychology Review, 6(4),* 237-246.

Takšić, V. (1998). Validacija konstrukta emocionalne inteligencije. [Validation of the Emotional Intelligence Construct]. *Unpublished doctoral dissertation, University of Zagreb.*

PREPAREDNESS OF EDUCATORS TO IMPLEMENT MODERN INFORMATION TECHNOLOGIES IN THEIR WORK WITH PRESCHOOL CHILDREN

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ABSTRACT

This study explores the issue of the preparedness of educators to realize the contents of the PPP (Preschool Preparatory Program) from the point of view of digitalization and informatization of the society The authors are in favour of the implementation of modern educational technology in the process of educating preschool children with the aim of improving the quality of educational work. By this we primarily mean the use of computers and didactic programs in kindergartens which are seen as institutions which carry out a systematic and planned education of preschool children. With this objective have the results of the research of the degree to which the educators are prepared to use computer in the process of realization of the contents of the Preparatory preschool program been presented. The results show that educators are interested in implementing ICT (Information and Communication Technology) within the process of educating preschool children who live and grow up in an era of Information Technology. The use of computers can surely help in the process of realization of the contents of the Preparatory Preschool Program; however, the truth is that they are not properly trained and qualified to do so, or to be more precise, they do not possess adequate pedagogical and methodological competence to be able to implement modern Information Technologies in their work with preschool children.

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1. INTRODUCTION

The implementation of modern technologies is becoming an essential part of modern education. Global exchange of information, movement towards the informatics system, as well as numerous tendencies of modern technologies, bring about the need to adjust the educational system and with that also the educators' environment. The changed role of educators in the era of digitalization has become the imperative of the society and their life-long learning and professional development have become the priority. Professional development of educators implies "*... the raising of consciousness of educators in terms of what, how and in what way they can improve the educational process*" (Stošić and Veličković, 2011:305).

The quality of educational work with preschool children can be improved and become better by means of studying the possibility of implementing Information and Communication Technologies and especially by means of focusing on the importance of the possibility of implementing modern education technology in the process of educating preschool children. Familiarization with the great creative potential which Information Technology possesses in the process of raising the quality of educational work, represents motivational factor which can encourage educators to broaden their informatic knowledge.

The implementation of Information

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Technology in preschool education should be realized through its application and integration within the educational work of educators, the main aim of which would be to create numerous possibilities of significant improvement of the quality of educational work and maximum involvement of children in the learning process. The use of ICT in work with preschool children is difficult to accept and the reason for that is most frequently the lack of education and information on the part of educators (Stošić, 2011), as well as the fear of the unknown. Within educational activity all over the world, as well as in our country, the introduction of various innovations is still facing strong resistance of educators' traditionalism, indifference and inertness and it also provokes fear, rejection and irrational hostility. Up to a certain point, this is even understandable because older generations of educators were not trained to use modern technology in preschool teaching. Unlike older generations, new generations are coming fully or partially prepared to properly guide children into the world in which computers are used, and those computers are becoming their everyday companions. Thus "*... as educators improve their knowledge related with the use of various technologies, the accompanying hardware equipment and with programs that can be used in their work with children, they will gain more confidence in their work, broaden their horizons in terms of possibilities offered by new media and Information and Communication Technologies and increase creativity with their implementation in everyday educational work.*" (Arsenijević and Andevski, 2011:29).

The mastering of basic skills related with operating a computer on the part of educators is the priority which precedes the introduction of Information Technology into educational work and the development of technical culture of preschool children. However, the first obstacle turned out to be the preconceptions regarding the age of educators and their insufficient knowledge related with the use of computers. Although older educators guess the possible usefulness and purpose of the use of Information Technology, the younger ones are aware of its benefits, especially when it comes to handling pedagogical documentation, professional development and obtaining information; however, they do not have programs and sufficient equipment for educational work.

The new media and the ICT can, if used, fundamentally change the system and the design of educational work, which is why their proper implementation requires pedagogical knowledge of working with children in such conditions, as well as the knowledge of the methodology of their use.

That is the reason why, in recent years, more attention has been paid to the training of future educators in terms of introducing Information Technologies into the educational system. In Preschool Teacher Training Colleges of Vocational Studies, there are subject programs within the field of Information Technology which require user-level knowledge acquisition (operative system, Internet, text processing programs, drawing programs, presentation-making programs, video and sound processing programs, getting to know the ready-made educational software, the use of various hardware components – printer, scanner, cameras, etc.).

1.1. Professional Competence of Educators in Implementing Modern Information Technologies

Modern Information Technologies have found their use in all the spheres of society, including the sphere of education. Within new educational technologies, multimedia didactic programs represent the treasury of teaching aids and resources which contribute to the modernization of educational work.

The changes in Information Technologies and changes within the society caused by those changes, recognize that educators should be able to modernize their work and to acquire new competence. New competence refers to informatic knowledge necessary in the 21st century, which means that educators should be able to make didactic materials independently in electronic form and use computers more often as a modern tool in the process of realization of program contents with preschool children, replacing overhead projectors, tape recorders, slide projectors, movie projector, episcopes and other obsolete devices and aids.

A 21st century educator should have professional, pedagogical and methodological competence. As stated by Arsenijević & Andevski, „*expert ICT competences are those competences of educators which are necessary for the direct use of these technologies in teaching or otherwise and for their areas of application. Pedagogical and methodological competences are those competences which enable educators to use new media and technologies in their work with children in an ad-*

equate way, as teaching aids, as well as teaching subjects" (Arsenijević and Andevski 2011: 28).

Pedagogical intuition, sensibility, creativity and computer literacy are all qualities of crucial importance for educators' profession, which is why they should be constantly improved and developed through a permanent learning process, cooperation with colleagues, parents and most importantly with children. In their work with children educators must be able to use computers and computer programs, but they can also create computer programs because only they have practical experience working with children.

With the aim of developing professional competence of educators for the purpose of achieving better quality of their work and further professional development, as Grandić and Stipić state "*professional development should be seen as a requirement of general importance for the profession, as well as an inner need of an individual*" (Grandić and Stipić, 2011:199). Apart from that, educators have the obligation to attend and participate in seminars approved by the Ministry of Education listed in the *Catalogue of the Program for Professional Development of Teachers, Educators and Associates.* The first issue of the Catalogue of the Program for Professional Development of Teachers, Educators and Associates started being used during the school year 2006/2007 and it was published every year, but starting from the school year 2012/2013, the Catalogue is authorized every two years and it is only available in electronic form. Everyone working in the area of education, has the obligation to achieve 120 points in a period of five years – 100 points for attending the approved programs, (60 hours from the list of mandatory subjects and 40 hours from the list of elective ones), and up to 20 points for participating in approved professional seminars (Article 12. of the Law on the Basics of Educational System, 2013).

Based on the analyses of the Catalogue, it can be concluded that the number of accredited programs is increasing year after year, including the area of preschool education. The first issue of the *Catalogue of the Program for Professionals in the Area of Education* included a total of 173 accredited programs, 7 of which were related with the area of preschool education, whereas the *Catalogue of the Program for Professional Development of Professionals in the Area of Education* for the school years 2012/2013 and 2013/2014 included 1021 accredited programs, 80 of which were related with the area of preschool education.

In terms of the accredited programs related with training educators to use Information Technologies in their work with preschool children, we can say that there is a really paradoxal situation there, namely, there was no accredited program with the stated topic in the first issue of the Catalogue. The next issue of the Catalogue for the school year 2007/2008, had one accredited program named "Child in the World of Computers", and all the following issues of the Catalogue contained the "Virtual Kindergarten" accredited program as a mandatory program. According to the statistics of the Institute of Improvement and Development of Education, for the school year 2011/2012, there were three seminars, and a total of 47 educators attended the "Virtual Kindergarten" accredited program. In the school years 2012/2013 and 2013/2014 and up to the present moment, there was no interest whatsoever. This tells us that the issue of introducing modern Information Technologies in preschool education is not treated with much enthusiasm, and that there is no "*sound and systematic support to the professional development of educators with the aim of realizing Preparatory Preschool Program with more quality*" (Veličković, 2014:120), which also implies greater degree of the ability of educators to implement modern Information Technologies in their work with preschool children.

It is obvious that our educators are, in terms of computer literacy, far behind their colleagues from EU countries. For example, the Swedish government has, in its attempt to fulfill its ambition and become IT leader in the whole world (which it actually achieved), put the introduction of new media and ICT to all levels of educational system as the top priority on the list of priorities, seeing them as an overall function which facilitates all other activities. That is the reason why the educational institutions in Sweden are highly technologically equipped, including the preschool institutions. More than half of the teaching staff (around 75,000) included in education of children and adults alike, is attending at least one kind of training provided by the government itself, and carried out with the help of specially trained informatic consultants.

1.2. The Implementation and Integration of ICT in Educational Work with Preschool Children

The acceptance of the specific nature of educational work with preschool children, as well as of the principles and of long-term aims in that work, requires special approach of Information Technology in preschool educational system.

Information Technology in education offers the possibility of using new methods and new organization of educational work, which would reduce the limitations of the traditional way of work to a tolerable level. Education technology should not only be understood as a simple use of computers (which is, due to numerous possibilities that they offer, inevitable nowadays), but rather as the implementation of diverse forms, ways and methods of work within the educational process which are enabled by means of various devices, such as different forms of television, videos, satellites, telecommunications, educational networks and services, optical technologies and the like (Danilović, 2010).

The implementations of Information Technologies are numerous, however, theoreticians and researchers single out three most important ones:

1. the acquisition of new knowledge – the use of educational programs,
2. revision and repetition of the acquired knowledge,
3. different leisure activities: games, drawings (Rečicki and Girtner, 2002).

Children should experience enormous possibilities which Information Technologies offer. It is essential that educators use their numerous potentials and thus achieve positive effect in all the areas of child development, raise the quality of all the segments of educational work and develop media culture of children.

There were some opinions that claimed that computers are not suitable for preschool children, because they are very complex machines which require certain level of intellectual development, especially a high level of abstract thought. However, the development of the so called user-friendly approach, which is directed towards making the technology available to users, has in great measure dismantled the myth which lead us to believe that only trained adults can use them (Pribišev Beleslin, 2007:20).

Information Technology (which includes computer games) offers stimulation of the senses through pictures, sounds, tones, films etc. This kind of multimedia representation increases children's attention and speeds up the learning process. In *The Basics of the Preschool Education Program* it has been determined that computers have their own place in various music, art, perceptive, logic and other activities. Generally speaking, computer games are great fun for children. At a very early stage of their development, using computer programs, children discover cause and effect relations of their own actions. Didactic programs enable improvement in accordance with children's abilities, generating, at every stage that a child reaches, the feeling of competence , and with that, it encourages children's self-confidence, self-respect and self-consciousness. Playing and dealing with programs which were specifically made for them, children have the opportunity to be creative, to direct their thoughts towards finding solutions and overcoming obstacles.

2. MATERIALS AND METHODS

The aim of the research was to determine the level of competence of educators in terms of their ability to use computers in the process of carrying out the Preparatory Preschool Program. The tasks related with the objectives of the research were the following:

- Exploring the level of competence of educators in terms of their ability to use computers,
- Finding out whether the educators are familiar with programs from the *Catalogue of the Program for Professional Development of Professionals in the Area of Education* regarding the use of ICT,
- Finding out whether the educators are sufficiently trained to use computers in the process of implementing the contents of the Preparatory Preschool Program,
- Finding out to what extent the educators are interested in education within the area of education technology,
- Exploring the situation of educators with the aim of finding out whether educators have support from the director and the administration department of their preschool institution regarding the implementation of computers in their work with preschool children.

In accordance with the proposed research tasks, the following hypothesis and sub-hypothesis have been postulated. The general hypothesis of this research is: It is presumed that educators are not sufficiently

trained and prepared to use computers in the process of realizing the contents of the Preparatory Preschool Program.

The instrument used in the research was the Likert scale, made especially for the purpose of this research; it consisted of 12 items which represented indicators of the competence of educators in terms of their ability to use ICT in their work.

The sample used in the research consisted of educators from the preschool institution ''Naša radost'', as well as of the educators from the preschool groups in ''Branko Radičević'' primary school in Bujanovac. The research was conducted with the teaching staff at the beginning of the year 2015.

In our sample of 50 (100% valid sample) subjects, the value of Cronbach's Alpha Quotient= 0,805, shows high level of reliability and internal compliance of the scale for this sample, which completely satisfies the reliability criteria.

3. RESULTS AND DISCUSSION

Table 1. shows the opinions of educators as to whether or not kindergartens should have IT rooms for preschool children computer training.

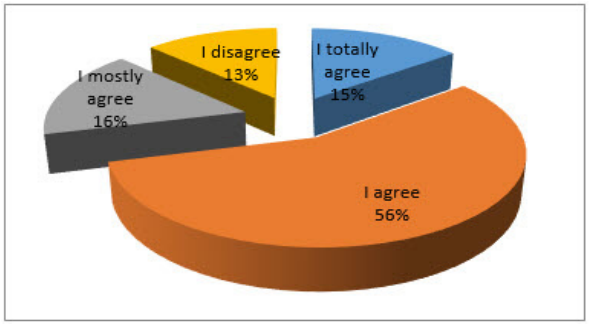
Table 1. Opinions of educators as to whether or not kindergartens should have IT rooms

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
I mostly agree	11	22 %	22 %	22 %
I agree	25	50 %	50 %	72 %
I totally agree	14	28 %	28 %	100 %
Total	50	100 %	100 %	

The results above show that 11 educators (22%) mostly agree, 25 educators (50%) agree and 14 educators (28%) totally agree that kindergartens should have IT rooms for preschool children computer training.

The obtained results show that educators are very interested in having an IT room in their kindergartens for preschool children computer training.

Graph 1. shows the results of the claim which states that Educators are not sufficiently trained and prepared to use computers in the process of realizing the contents of the Preparatory Preschool Program''.



Graph 1. Opinions of educators related with their computer competence in the process of realizing the contents of the Preparatory Preschool Program

Out of the total number of subjects, 31 educators, that is 62 % of them agree that educators are not sufficiently trained and prepared to use computers in the process of realizing the contents of the Preparatory Preschool Program, 9 educators responded that they mostly agree, which represents 18 % of subjects, 8 subjects totally agree with the claim, whereas only 2 educators disagree with the claim stating that educators are not sufficiently trained and prepared to use computers in the process of realizing the contents of the Preparatory Preschool Program.

Chi-squared test=7.654, obtained by means of statistical analyses, for 6 degrees of freedom, p=0,265, which is not statistically significant, indicates that educators are not sufficiently trained and prepared to use computers in the process of realizing the contents of the Preparatory Preschool Program. If we take into account the level of education, we can conclude that the results are not statistically very different.

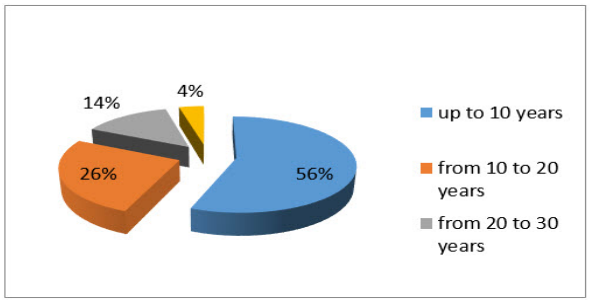
Table 2. shows the structure of samples according to the level of education of educators.

Table 2. The structure of samples according to the level of education of subjects

	Frequency	Percentage	Valid percentage	Cumulative percentage
College	20	40 %	40 %	40 %
University	18	36 %	36 %	76 %
Applied Studies	12	24 %	24 %	100 %
Total	50	100 %	100 %	

Out of the total number of subjects in the study, 20 (40%) subjects had a college degree, 18 educators, that is 36%, had a university degree and 12 subjects, or 24% of them, had obtained the Applied Studies degree for preschool teachers.

Graph 2. shows the structure of the samples according to the years of service of educators.

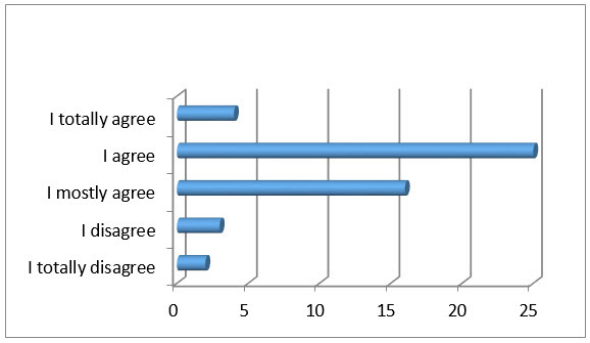


Graph 2. Structure of the samples according to the years of service of the subjects

When it comes to the years of service, the greatest number of subjects (56%) belongs to the category of lowest number of the years of service, up to 10 years, 26% of educators belong to the category 10-20 years of service, 14% educators belong to the category 20-30 years of service and 4% of educators are those with more than 30 years of service.

We believe that "younger" educators, younger in terms of years of service, agree more that computers should be used, because younger generations live and grow in a digitalized environment, which is why they are more open to and also use more, on a daily basis, some of the forms of modern Information Technologies (social networks, e-banking, chip IDs and cards, etc.), and are thus aware of the usefulness of computers when it comes to educational work. Therefore, this research showed that "younger" educators, younger in terms of years of service, have positive attitude towards modern Information Technologies.

Graph 3. shows the results of the opinion of educators related with the issue of whether or not educators are familiar with programs of education technology from the *Catalogue of the Program for Professional Development of Professionals in the Area of Education,* regarding the use of ICT.



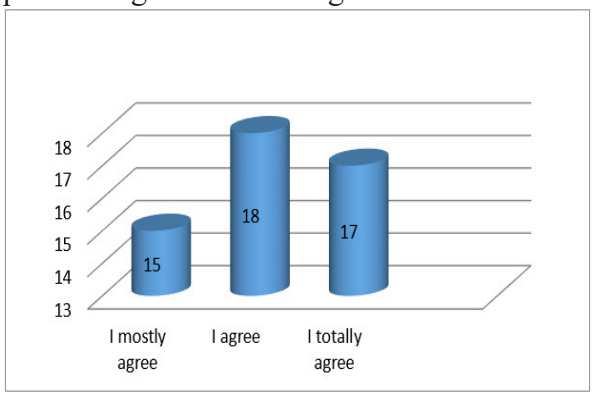
Graph 3. Educators are familiarized with programs of education technology from the *Catalogue of the Program for Professional Development of Professionals in the Area of Education*

Regarding the results related with the claim that "Educators are familiar with programs of education technology from the Catalogue of the Program for Professional Development of Professionals in the Area of Education ", 25 educators, or 50% of them, agree that educators are familiar with programs of education technology from the Catalogue of the Program for Professional Development of Professionals in the Area of Education. Sixteen educators responded that they mostly agree, which represents 32% of subjects. Four educators, or 8% of them, totally agree, 3 educators, or 6% of them disagree, whereas 2 subjects, or 4% of them totally disagree with the claim that educators are familiarized with programs of education technology from the Catalogue of the Program for Professional Development of Professionals in the Area of Education.

The presented results show that most of the subjects agree with the claim which states that educators are familiar with programs of education technology from the Catalogue of the Program for Professional Development of Professionals in the Area of Education. The results are certainly encouraging, because they indicate that educators are interested in their own education and professional development.

Chi-squared test =14.051, obtained by means of statistical analyses, for 8 degrees of freedom, p=0,080, which is not statistically significant, indicates that educators are familiar with programs of education technology from the Catalogue of the Program for Professional Development of Professionals in the Area of Education.

Graph 4. shows the results of the opinion of educators regarding the issue of the extent to which educators are interested in implementing ICT in kindergartens.



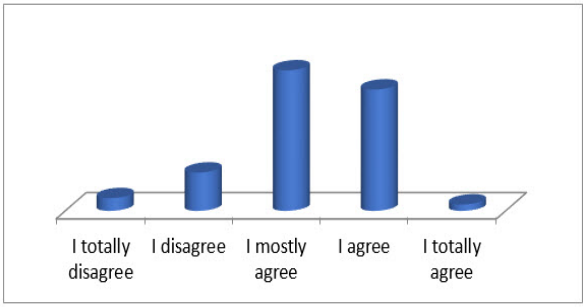
Graph 4. Interest of educators regarding the implementation of ICT in kindergartens

The obtained results related with the claim that "Educators are interested in education within the area of Information Technology" showed that 21 educators, or 42% of them, agree that educators are interested in education within the area of Information Technology. Twelve educators responded that they mostly agree, which represents 24% of the subjects, and 17 educators, or 34% of them, totally agree with the claim that educators are interested in education within the area of Information Technology.

The results clearly show that educators are very interested in implementing ICT in kindergartens.

Chi-squared test=5.806, obtained by means of statistical analyses, for 4 degrees of freedom, p=0,214, which is not statistically significant, indicates that educators are interested in education within the area of Information Technology.

Graph 5. shows the results related with the claim that "Educators have the support of the director and the administration department of their preschool institution regarding the implementation of computers in their work with preschool children".



Graph 5. Opinions of educators related with the issue of whether or not educators have support from the director and the administration department of their preschool institution regarding the implementation of computers in their work with preschool children

The obtained results related with the claim that "Educators have support from the director and the administration department of their preschool institution regarding the implementation of computers in their work with preschool children", show that 19 educators, or 38 % of them, agree with the claim that educators have support from the director and the administration department of their preschool institution regarding the implementation of computers in their work with preschool children. Twenty-two educators responded that they mostly agree, which represents 44% of subjects. One educator, or 2% of them, totally agrees, whereas 6 educators, or 12% of them disagree with the claim which states that educators have support from the director and the administration department of their preschool institution regarding the implementation of computers in their work with preschool children.

Chi-squared test=15.659, obtained by means of statistical analyses, for 8 degrees of freedom, p=0,048, which is not statistically significant, indicates that educators have support from the director and the administration department of their preschool institution regarding the implementation of computers in their work with preschool children.

4. CONCLUSION

Using theoretical research and analyses of the attitudes of educators regarding the implementation of modern Information Technologies in their work with preschool children, we wanted to find out opinions of educators as to whether the use of computers can help in the process of realization of the contents of the Preparatory Preschool Program.

If we compare the results of this research with the results of previous ones, which the author, Stošić (2011), conducted with students who had rich working experience in preschool institutions, and who were attending the College of Vocational Studies for Preschool Teachers in Aleksinac for the sake of receiving additional education, we can conclude that the competence of educators in terms of their ability to implement ICT in their work with preschool children is at a very low level.

If we add to that the fact that professional development of educators through informal forms of education, mostly training programs and projects aimed at implementing the modern Information Technology in educational work is not present enough, we can reach the conclusion that educators do not possess sufficient professional pedagogical and methodological competences in the area of realizing the contents of the Preparatory Preschool Program which confirms the postulated hypothesis. This thesis is also supported by a one-time training through *Virtual Kindergarten* accredited program which the educators from the preschool institution "Naša Radost" from Bujanovac had in 2013, which implies that educators need continuous and systematic support in the area of ICT, in order for them to be able to use all the advantages of the ICT, and also facilitate their everyday work in the

process. Above everything else, the number of professional seminars in which educators will have to prove or improve their knowledge should be increased.

The encouraging fact in our research is that educators are not passive when it comes to implementing computers in the process of realizing the contents of the Preparatory Preschool Program; they are rather interested in having an IT room for informatic training of preschool children in their institutions and most of the subject agree on that.

A successful implementation of Information Technologies within the system of educational work depends, primarily, on the awareness and responsibility of educators themselves regarding their very usefulness, for both professional development and technical culture of children.

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Conflict of interests

The authors declare no conflict of interest.

REFERENCES

Arsenijević, J., Andevski, M. (2011). Kompetencije vaspitača za upotrebu novih medija i tehnologija, *Zbornik Visoke škole strukovnih studija za obrazovanje vaspitača u Kikindi*, br.2, 25-35.

Danilović, M. (2010). Tehnika, obrazovna tehnologija i informatika u funkciji povećanja efikasnosti obrazovnog procesa učenja, *Tehnička informatika u obrazovanju*, 3. Internacionalna konferencija, Čačak: Tehnički fakultet.

Grandić, R., Stipić, M. (2011). Profesionalni razvoj nastavnika-put do kvalitetnog obrazovanja, *Pedagoška stvarnost*, br.3-4, 198-209.

Katalog programa stručnog usavršavanja zaposlenih u obrazovanju za školsku 2012/2013. i 2013/2014., Beograd: Zavod za unapređivanje vaspitanja i obrazovanja, dostupno na: http://www.zuov.gov.rs/novisajt2012/index.html

Pribišev Beleslin, T. (2007). *Susretanje u elektronskom svetu: Deca, vaspitači, kompjuteri, vrtići*, Banja Luka: Fakultet društvenih nauka.

Rečicki, Ž., Girtner, Ž. (2002). *Dete i komjuter*, Beograd: Zavod za udžbenike i nastavna sredstva.

Veličković, S. (2014). Profesionalni razvoj vaspitača u funkciji unapređivanja kvaliteta Pripremnog predškolskog programa, *Pedagoška stvarnost*, LX.(1), 112-121.

Zakon o osnovama sistema obrazovanja i vaspitanja, („Sl.glasnik RS", br. 52/2011 i 55/2013).

Stošić, L., Veličković, S. (2011). Education and professional development of educators of preschool education, Инновационный потенциал субъектов образовательного пространства в условиях модернизации образования, Россия, Ростов-на-Дону, pp. 305-312.

Stošić, L. (2011). Pripremljenost vaspitača u oblasti tehničkog i informatičkog obrazovanja, *Tehnologija, informatika i obrazovanje za društvo učenja i znanja*, Čačak:Tehnički fakultet dostupno na: http://www.ftn.kg.ac.rs/konferencije/tio6/radovi/7)%20Tehnicko%20i%20informaticko%20obrazovanje/PDF/703%20Lazar%20Stosic.pdf

Каталог програма сталног стручног усавршавања наставника, Retireved from http://www.zuov.rs/programi1/Odrzani.aspx

THE ROLE OF THE TEACHER IN INTERACTIVE TEACHING

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interactive teaching,
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ABSTRACT

Considering the role of the teacher and their relation to pupils during the instructional process as well as the organisation of activities by the teacher, this paper actualises the current views related to the role the teacher has in interactive teaching.
The teacher is the basic instigator of interaction with his/her pupils and he/she can be such an instigator only with well organised teaching.
Interactive teaching, a promising approach, represents a challenge not only for the teachers but for the professional service as well. The traditional teaching, dominated by a verbal approach and memorising of the teaching material, is entirely replaced with other activities, both in the process of following the teaching and in the process of learning the material.
The purpose of this paper is to explore the level of application of interactive teaching in the educational process, since practicing of interactive teaching by the teachers, during this paper represents only a part of authentic results from the two combined researches, one part of results obtained via survey sheets given to the teachers of nine schools and a part of the results from interviews taken with the professional service as a focus group.

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1. INTRODUCTION

Apart from the development of the pedagogical thought, teachers' work has always been in the focus of interest of renowned scholars who emphasise various aspects related to the role and the position of teachers.

Application of interactive teaching within a class also dictates a change of the teacher's role.

Such a change requires the teacher to possess knowledge, to be an educator, advisor, friend, organiser, coordinator, associate, assessor, in a word, to be a versatile person. More specifically, the teacher has a wider and more versatile role in interactive teaching. He/she should be active in school, outside school, during the after school activities and in the implementation of cultural activities in school. A good teacher does not impose his/her attitudes, however, his/her role also imposes on him/her to cooperate with pupils. Cooperating with pupils does not imply that the teacher should only listen to their proposals. Good and democratic work in a class implies that the teacher accepts the influence by the pupils.

With interactive teaching, the pupil is positioned in the role of a subject and equal partner of the teacher. Teachers who respect their pupils and the pupils' opinion organise the teaching process in a way in which the pupils acquire knowledge more easily and at the same time, they instigate pleasure and curiosity in them during the implementation of the programme contents.

This paper mentions, explains and analyses the terms that are crucial in the determination of the subject of the paper. This excludes the possibility for them to be understood incorrectly or differently. The basic terms that appear in the title are:

- Interactive teaching;
- The teacher and his/her role.

There are many definitions of the term

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interactions, which basically differ according to the interpretation of this term, however, they are put into the context of sources that have a pedagogical character, in which the interaction is more based on the teaching. In the Pedagoški leksikon (2000, p. 203), interaction is interpreted as something of a wider scope, in the context of philosophy, dialectics and of a number of special theories in different sciences. Still, the basic starting point is the definition according to which "interaction is defined as a general term for various types of mutual action between two or more systems."

Bratanić states that interactions as an actual relation are seen through mutual action of persons who mutually define their behaviour based on the attitudes they assume one towards the other. If we have pointed out that there is no education without interpersonal relations, now we can emphasise that there is no education without interaction (Bratanić, M., 1993, p. 76).

Roth defines interaction as an "actual relation between two or more individuals, whereby one individual influences the conduct of the other individual." The term interaction implies "mutual action of people who assume attitudes one to another, which bilaterally defines the conduct" (Roth, N., 1973, p. 11).

From the historical point of view, until the middle of the 1980s, literature related to the interaction teacher–pupil most frequently addressed the aspects of studies of Pianta, Hamre and Stuhlman, while the last thirty years shifted the interest of researchers towards the relation between the pupil and the teacher (Pianta, R.C., Hamre, B. and Stuhlman, M., 2003, pp. 199-234).

Because, when it comes to school education we distinguish\the terms learning (the activity undertaken by the pupil) and teaching (the activity undertaken by the teacher), two processes that are interrelated, we will define below the term interactive teaching.

Interactive teaching implies learning with action. It is characterised with a high level of inclusion of the pupil. The basics of interactive teaching can be found in constructivism, which interprets the learning as a process of reflection through personal experience. The interactive learning requires the teacher to play the role of a trainer and an assistant, who use their real experience and at the same time are supposed to have patience or expectations that pupils will achieve a certain level of quality (Musai, B., 2014, p.52).

The Glossary of Education by Kosma Grillo states that interactive teaching is a process of learning that is actuated by the interest of the pupil and the procedures for reviewing (Grillo, K., 2002, p.304).

Interactive teaching within the process of education is a level of learning with cooperation since the set educational goals and assignments are successfully accomplished within the pupils' joint work. For that reason, the phenomenon active - interactive is a constituent part of the modern strategy of organising and maintaining all the forms of instructional work and its modalities.

According to Zylfi, interactive teaching as part of the global strategy of the system of operation of the teaching methods is an active model of learning in the contemporary school that has support in the process of development of the problem of learning with research elements. With interactive learning, the cooperative elements raise the quality of knowledge (Zylfi, N., 2011, p. 239).

Interactive teaching implies offering of possibilities to pupils so that speech, listening, writing and reading have full meaning and reflect on the contents, ideas, and problems of one specific academic subject (Meyers and Jones, 1993, p.6).

The role of the teacher has been discussed constantly, since the very beginning of school; there is no pedagogical issue that is not about the teacher. According to Bardhyl Musai, we usually employ the term teacher for persons who have a main, functional and professional task to help others in gaining knowledge and acquiring habits as well as new ways of conduct (Musai, B., 2014, p.3).

The Pedagogical Lexicon gives a narrow definition of the term teacher as a person qualified to carry out instruction, to perform educational and vocational work with children, youth and adults.

Pedagogue Zylfiu states that the term teacher is understood to imply qualified educational staff, who teach and are directed by their own wish and will towards the execution of the educational and vocational work, which is the work that requires a high level of responsibility (Zylfiu, N., 2011, p.239).

Zeiger (2014) pointed out that the role of the teacher implies much more than standing before the pupils and only teaching. A good teacher in instruction implies a large number of activities, which he/she performs in order to ensure that all the children receive quality instruction.

In his book titled "Methodology of Teaching," Musai (2003) wrote that the teacher is a person assigned with the task to help others to learn and behave in a certain

way, different from the old way of behaviour.

According to Lanier (2015), the most important task of the teacher is to make effort to enable well understandable teaching experience, which enables the pupils to resolve problems from the real life and demonstrate that they have learned great ideas, acquired good capabilities and fulfil the laws of the mind and the heart, complying with educational standards.

Rice (2003) reveals that good teachers highlight the importance of independence of the pupils and encourage them to express their imagination. Pupils are motivated to learn from contents or lessons adjusted to their interests and inspiration. This implies that the teachers have influence and responsibility for the formation of pupils as persons. With such an influence and responsibility, they feel great honour and joy. That is why all the teachers should strive to be good teachers.

1.1. The Role of the Teacher in Traditional Teaching

Teacher's profession is one of the oldest professions that originate from the period before the establishment of school as an institution. Persons who enjoyed respect in the society were selected for this dignified profession. The level of acquired pedagogical knowledge greatly depends on the teacher himself/herself and his/her professional competences. The teacher is always expected to be a role model for the pupils and the society as a whole with his/her conduct and education and work. The type of activities that the teacher will be able to perform successfully and the objective of the activities themselves depend on the level of such competences.

The role of the teacher in the traditional system of teaching proved to be ineffective and inadequate for the pupils. The teacher in the traditional way of teaching appeared as the main agent of the educational and vocational activities in school. In such type of teaching, he/she is the agent of the activities in the class. The teacher appears in the role of the provider of information, i.e. the lecturer who relies on books. Changing the teacher's role from a passive doer to an active doer is hard work due to the traditional practice applied for a long time; at the same time, there is inertia among the teachers to open towards the latest trends and developments.

Interactive teaching is a challenge to teachers since they are required to change the way of work and at the same time possess a high level of professional preparedness.

1.2.The Role of the Teacher in Interactive Teaching

The teacher in interactive teaching does not have only educational and vocational role but he/she has to be a designer, programmer, diagnostician, researcher, organiser, manager, innovator, educator and advisor (Ilić, M.,1999, p.141). More specifically, the teacher is the organiser of teaching and partner during the communication with his/her pupils.

For the needs of contemporary schools, William Glasser shows the path for achieving high quality education, which will not be based on compulsion and the authoritative style of the teacher. During this process, the managing role of the teacher should change (Glasser, W., 1994 p. 25). According to this author, the teacher who manages to make all his/her pupils be active during the teaching process may be regarded as an interactive teacher. The author also emphasises that teaching is a difficult activity, which should meet the need of the pupils. For productive work and motivation of pupils it is important to create positive environment in the classroom, which will stimulate satisfaction with the pupils, along with their curiosity to learn.

Unlike traditional teaching, where great attention is dedicated to the teaching contents, interactive teaching pays greater importance to the way in which knowledge is acquired.

An interactive teacher is the one who respects all the pupils, listens to them and helps them to solve problems by themselves, as well as to mutually exchange good ideas with the way of his/her actions and his/her attitudes. The same importance is given to the posture and the conduct of the teacher, which are as important as the activities that the teacher carries out with children. An interactive teacher is the one who knows and understands some basic principles related to how the child studies and at the same time, knows to use different forms and methods related to the teaching, in order to help all children.

By applying interactive teaching, the relations between the pupils become friendlier, better understanding of the common goal is enabled, communication is open and at the same time, better results in mastering teaching contents are achieved.

Application of interactive teaching is not an easy job. Most teachers are used to carry-

ing out teaching in the way they were thought when they were pupils, complemented with the acquiring of certain additional knowledge when they completed the Faculty of Pedagogy, as well as through various trainings. Changing of old habits of teaching and seeking new ways is pretty difficult since we do not know how to come to interactive teaching and what is its objective.

Creation of possibilities for interactive teaching requires teachers to get acquainted with several strategies in order to facilitate and support the communication between the pupils. It means that the teachers should know and to be capable of using interactive models in which pupils are frequently involved in small and large group activities.

Interactive teaching requires better professional qualification from teachers, along with greater engagement. In order to apply successfully interactive teaching in the classroom, the teacher should plan and prepare the teaching activities in advance.

2. MATERIALS AND METHODS

This survey included 151 teachers from nine elementary schools. Questionnaires for the teachers were prepared in accordance with the Likert scale. The results were processed based on the working experience in the educational sector and the teachers' educational background.

This paper also presented some of the results of the discussions within the focus groups with professional service - inspectors, teachers, and principals. Selection of participants in focus groups was deliberate because all participants have experience with observation during the teaching process and based on their experience to discuss the topic under study.

2.1. Research Hypotheses

There is a significant difference between teachers and the professional service with regard to practising interactive teaching in the educational work with children in early school age.

3. RESULTS

Teachers and pupils are direct participants in interactive teaching; still, principals and professionals in school (pedagogues, psychologists) play a significant role in the organisation of interactive teaching.

Therefore, in highlighting this topic, we are of opinion that it is important to include the interview with the focus group composed of principals, inspectors and pedagogues.

On the question: *To what extent is interactive teaching practised in the educational work with children in the early school age?*

Members of the focus group gave the following responses:

Direct quotes

D-1: It is easier for teachers to work in a traditional way, therefore they practise interactive teaching to a low extent.

D-2: Interactive teaching is practised more by trained teachers who know how to apply this type of teaching. Teachers try to apply interactive teaching through certain activities that are organised within the class, but such teaching is not on a satisfactory level.

D-3: I do not think that we are at the beginning of the journey; however, there is a lot to be done in the direction of application of interactive teaching.

D-4: Interactive teaching is not applied on a satisfactory level. Failure to apply interactive teaching in practice results from the failure of the institutions to oblige teachers to apply interactive teaching, giving them freedom in their work. Teachers only prepare for interactive teaching when they know that they will be monitored.

D-5: Interactive teaching is applied more in preschool classes than in the first grade of elementary education.

D-6: We are in the first phase of application of interactive teaching and therefore we should be concerned about the non-implementation of this type of teaching, knowing its positive effects.

D-7: Some teachers, although trained and qualified, do not apply interactive teaching. During the training in interactive teaching, it was applied more frequently, and after the completion of the training sessions, i.e. the project, the application of interactive teaching declined.

D-8: In our schools, interactive teaching is not applied on an adequate level, and contemporary teaching methods are not applied, all this because of the following two reasons:

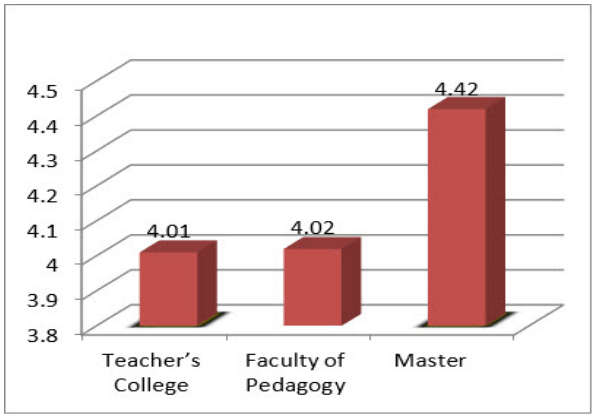
- Curricula are not prepared to enable implementation of the interactive teaching.
- School texts are prepared in the

manner that they are more adjusted to the traditional way of teaching.

D-9: Working in groups requires special assignments to be prepared for each group and therefore teachers are not motivated to prepare various assignments and they are oriented towards frontal work. Very often, the organisation of the class does not allow interactive teaching.

D-10: Teachers of different generations are engaged in schools that are the subject of this survey, which makes it visible that aged teachers practise interactive teaching less since it is difficult for them to change their way of work.

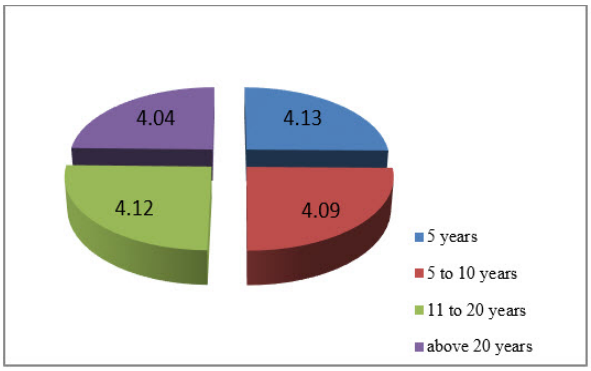
On the other hand, teachers that participated in the survey rated the question «*how much do you practise interactive teaching in the work with the children in the early school age"* with an average grade of 4.09, meaning that the teachers confirmed that during their work with the children they employ interactive teaching on a very high level.



Graph 1. Graphic presentation of the results to the question:How much do you practise interactive teaching in your work with children, according to the level of education

Regarding this issue, the results obtained on the basis of the working experience in the educational sector were also analysed.

Teachers with the working experience of up to 5 years assessed interactive teaching with the average grade of 4.13; their colleagues with the working experience from 5 to 10 years gave the average grade of 4.09; those with the working experience from 11 to 20 years in relation to practising interactive teaching gave the average grade for the interactive teaching of 4.12; while teachers with working experience above 20 years, answering the same question, gave the average grade of 4.04.



Graph 2. Graphic presentation of the results for the question: How often do you practise interactive teaching in the work with children from the early school age, according to the working experience in the educational sector

4. DISCUSSION

Referring to data obtained with the help of professional workers as a focus group, they gave unsatisfactory attitudes in relation to the application of interactive teaching in the educational and vocational work.

Professional workers confirmed that during their educational and vocational work they employ interactive teaching, but not to a great extent. According to them, interactive teaching does not apply sufficiently due to the following reasons:

- Adult - traditional teachers have difficulties to employ interactive teaching, compared to younger teachers, who participate in various trainings for that goal.
- In the period when training for interactive teaching was carried out, it was practised to a greater extent but as soon as the project finished, the application of interactive teaching started to decrease, and the same happened after other trainings.
- Failure to employ interactive teaching in practice is a consequence of the institutions not obliging the teachers to apply interactive teaching, giving them freedom in their work. Teachers prepare for interactive teaching only in cases when they know that they are going to be supervised.
- School texts are prepared in such a way that they are more adjusted to the traditional way of teaching.
- The work in groups requires spe-

cial assignments for each group and therefore, teachers are not motivated to prepare various assignments and they are oriented towards frontal work.
- There is inertia among teachers and schools concerning opening towards the latest trends and developments.

The obtained data demonstrate that teachers with completed Teacher's College with regard to the employment of interactive teaching gave the average grade of 4.01, their colleagues who completed the Faculty of Pedagogy gave the average grade of 4.02 to the same question, while the those with the Master degree, rated interactive teaching, according to the Likert scale, with the average grade of 4.42. It can be concluded from the obtained results that teachers with higher qualifications practise interactive teaching to a higher extent.

5. CONCLUSION

From the grades of the teachers, we can conclude that they employ interactive teaching with the average grade of 4.09, and professional workers confirm that they practise interactive teaching but not to a sufficient level. In case of their grading, there is a significant difference between the teachers and the professional service, related to practising interactive teaching in the educational and vocational work with children.

From the results obtained with this study, we can establish that teachers with the highest qualifications employ interactive teaching to the highest extent, while teachers with the longest working experience in the educational sector and their colleagues at older age employ interactive teaching with children to the lowest extent.

The results from the research confirmed that the main burden is on the teacher and the way in which he/she organises the work in the classroom. In order that interactive teaching in the classroom is successfully employed, the activities should be planned and prepared in advance.

Recommendations

Based on the obtained results, we are giving the following recommendations:
- Any teaching subject can be interactive, it only requires greater commitment from the teacher;
- Interactive teaching should not be treated and studied only when study objectives are in question, it should be employed more in the classroom;
- Organising joint meetings with the teachers where the importance of interactive teaching will be discussed;
- Mutual visits and exchange of experience among teachers should be realised;
- Presentation of teachers who practise interactive teaching should be made;
- Instructions for the teachers (related to the models of teaching) should be prepared;
- Interactive teaching has a large number of advantages compared to the traditional way of teaching and therefore, it should be employed more by the teachers.

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Conflict of interests

The author declare no conflict of interest.

REFERENCES

Bennett, N., & Cass, A. (1989). The effects of group composition on group interactive processes and pupil understanding. *British Educational Research Journal, 15(1),* 19-32.

Bezić, K., & Strugar, V. (1998). Učitelj za treće tisućljeće. Zagreb: *Hrvatski pedagoško-književni zbor.*

Bratanić, M. (1993). Mikropedagogija: Interakcijsko-komunikacijski aspekt odgoja. Zagreb: *Školska knjiga.*

Breidenbach, L., & Killion, J. (2001). *What works in the middle: Results-based staff development.*Oxford, OH: National Staff Development Council.

Caena, F. (2014). Teacher Competence Frameworks in Europe: policy as discourse and policy as practice. *European Journal of Education, 49(3)*, 311-331.

Cassaday, H. J., Bloomfield, R. E., & Hayward, N. (2002). Relaxed conditions can provide memory

cues in both undergraduates and primary school children. *British Journal of educational psychology, 72(4)*, 531-547.
Cindrić, M. (1995). *Profesija učitelj u svijetu i u Hrvatskoj.* Zagreb, Persona.
Delors, J. (1998). *Učenje: Blago u nama.* Zagreb: Educa.
Dryden, G., & Vos, J. (2001). *Revolucija u učenju*. Educa, Zagreb.
Giesecke, H. (1993). *Uvod u pedagogiju* [Introduction to pedagogy. In Croatian]. Zagreb: Educa.
Glasser, W. (1994). *Kvalitetna skola*. Educa Zagreb.
Goleman, D. (1997). *Emocionalna inteligencija: zašto može biti važnija od kvocijenta inteligencije.* Mozaik knjiga.
Gossen, D., Anderson, J., Paić-Jurinić, M., & Šćurić, L. (1996). *Stvaranje uvjeta za kvalitetne škole*. Alinea.
Grillo. K. (2002). *Fjalor edukimi.* Tiranë: Instituti i studimeve pedagogjike.
Havelka, N. (2000). *Učenik i nastavnik u obrazovnom procesu*. Zavod za udžbenike i nastavna sredstva.
Ilić M. (1999). *Komunikacija između učenika i nastavnika,* U zborniku Pedagoška reforma škole, Beograd: Ruska akademija obrazovanja i Zajednica učiteljskih fakulteta Srbije.
Lanier, J. (2012). *Redefining the role of the teacher: It's a multifaceted profession*. Retrieved on 4th November.2015, from: http:www.edutopia.org/redefining-role-teacher.
Meyers, C., & Jones, T. B. (1993). *Promoting Active Learning. Strategies for the College Classroom*. Jossey-Bass Inc., Publishers, San Francisco.
Musai, B. (2003). *Metodologji e mësimdhënies.* Tiranë: CDE.
Musai, B. (2014). *Metodologji e mësimdhënies.* Tiranë: CDE.
Osmić, I. (2001). K*omunikacije i interakcije u nastavnom procesu: Sukob ili saradnja*. Univerzitet. Tuzla: Grafičko-izdavačka društvo „Grin".
Pedagoški leksikon (2000). Beograd: Zavod za užbenike i nastavna sredstva.
Pianta, R. C., Hamre, B., & Stuhlman, M. (2003). *Relationships between teachers and children*. Handbook of psychology. New Jersey: John Wiley & Sons.
Rice, J. K. (2003). *Teacher quality: Understanding the effectiveness of teacher attributes.* Economic Policy Institute, Washington, DC.
Rickards, T., Newby, M., & Fisher, D. (2000). Teacher and student perceptions of classroom interactions: A multi-level model. Paper presented at *Proceedings Western Australian Institute for Educational Research Forum*.
Rijavec, M. (2001). *Odgoj za razvoj*. Zagreb: Alinea.
Rot, N. (1973). *Osnovi socijalne psihologije*, Beograd: Zavod za udžbenike i nastavna sredstva.
Tomas, G. (1998). *Kako biti uspešan nastavnik.* Kreativni centar i most, Beograd.
Vood, D. (1996). *Kako djeca uče i misle.* Zagreb: Educa.
Zeiger, S. (2014). *Raising Confident Kids.* CreateSpace Publishing United States.
Zylfiu, N. (2011). *Teoria e mësimit dhe proceset didaktike të mësimdhënies*, Prishtinë: Printig Press.

THE EFFECT OF A READING COMPREHENSION SOFTWARE PROGRAM ON STUDENT ACHIEVEMENT IN MATHEMATICS

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computer based instruction,
problem solving,
critical thinking,
language.

ABSTRACT

In an effort to increase student achievement, research was conducted to determine the degree in which a reading comprehension software program effected the reading and math abilities of fourth and fifth grade students. Cognitive and educational studies were examined to select a reading comprehension software program as an intervention that would produce positive results in reading comprehension and possibly transfer positive results to achievement in other academic areas, specifically in math. The effects of the intervention were measured by assigning subjects to an experimental group. The total sample consisted of 39 students who were deficient in reading comprehension, and also exposed a significant weakness with word problem items on mathematical assessments. Four instruments were used to collect data before and after the treatment to measure student achievement. To determine the degree to which the software program effected student achievement, data from the four instruments were analyzed using SPSS software. A paired-samples dependent *t* test and a Pearson Product Moment Correlation Coefficient was computed with ratio level data to test for a correlation between increased math scores and reading comprehension scores. Results yielded statistically significant and positive results in increasing reading comprehension skills that could possibly benefit students in reading and understanding mathematical problems. Results did not conclusively support that the increase of reading-comprehension skills had a collateral effect on students scoring higher with math word problems. The results are conducive to providing insight to educational leaders who plan to implement software as a means for increasing student achievement.

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1. INTRODUCTION

The ability to read proficiently is a fundamental skill that affects the learning experiences and school performance of children and adolescents. Students who are competent readers, as measured by their performance on reading tests, are more likely to perform well in other subjects, such as math and science (Hyde, 2007; Carnine and Carnine, 2004). State assessments in Florida have been designed to measure student achievement and have been aligned with the Common Core-based standards of Florida that serve as the instructional benchmarks for instruction in the Florida schools. The test specifications for the suite of assessments assume that students are able to read, understand, and then explain their thinking in a reasonable format. For that reason, difficulty with reading comprehension could have a negative impact on math scores. An interesting trend occurred at one Central Florida elementary school, whereby students who were deficient in reading comprehension also demonstrated a weakness with performance-task, word problem items on the state mathematical assessment. This problem, which impacts student achievement and affects state accountability measures, created an investigative opportunity to conduct research that sought to test whether a reading compre-

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hension software intervention could result in progress in reading comprehension and could transfer to achievement in mathematics.

Cognitive and educational studies that address elements of reading comprehension, connections to mathematical achievement, and software design characteristics that seem to make a difference in student achievement are used in the selection of an intervention. There are several reading comprehension skills that if absent would greatly affect math word problem achievement (Crowe, 2005; Pany and McCoy, 1988; Shany and Biemiller, 1995; and Fuentes, 1998). Adams (2003) revealed that the ability to decode and comprehend text is required to complete the initial phases of the four-step problem-solving process of Polya (1945). The third phase relies on the ability of the student to select and use appropriate strategies to respond to the problem. In order to select and use an appropriate strategy, students need the reading comprehension skill of making connections of the solution strategy to schema (Jitendra, DiPipi, and Perron-Jones, 2002). Research confirms the schema-based strategy as an effective strategy for increasing the number of correctly solved multiplication and division word problems. A student has a greater chance of depicting the patterns of relationships as well as their linkages to mathematical operations by using the schema-based strategy.

Research uncovers that instruction that models the strategy of thinking out loud and the analysis and solution process for sample word problems is helpful with improving the comprehension of text for students (Graesser, Singer, and Trabasso, 1994; Steele and Steele, 1999). Furthermore, there have been significant relationships between mathematics scores and reading scores, which suggest that the number of comprehension questions answered and story propositions recalled correctly can have a direct affect on math achievement. Therefore, comprehension of text which can have a direct effect on math achievement can be improved by using the instructional strategy of modeling.

Cognitive development theories of Vygotsky (1978) offer support when discussing the effects that the instructional strategy of modeling can offer. In terms of social influences on cognitive development, Vygotsky places emphasis on children discovering and developing new understandings through social interaction with a skillful tutor. The tutor may model behaviors and/or provide verbal instructions for the child. Vygotsky refers to this as cooperative or collaborative dialogue. The child seeks to understand the actions or instructions provided by the tutor then internalizes the information, using it to guide or regulate their own performance. According to Vygotsky, this type of social interaction involving cooperative or collaborative dialogue promotes cognitive development.

Cooperative dialogue through social interactions allows for children to develop language which can become a powerful tool of intellectual adaptation. Vygotsky (1987) considered private speech as the transition point between social and inner speech, the moment in development where language and thought unite to constitute verbal thinking. Vygotsky viewed private speech as a means for children to plan activities and strategies and therefore aid their development. Language is therefore an accelerator to thinking and understanding. Vygotsky noted that private speech does not merely accompany a child's activity but acts as a tool used by the developing child to facilitate cognitive processes, such as overcoming task obstacles, enhancing imagination, thinking, and conscious awareness. Children use private speech most often during intermediate difficulty tasks because they are attempting to self-regulate by verbally planning and organizing their thoughts (Winsler et al., 2007). The frequency and content of private speech are then correlated with behavior or performance. For example, private speech appears to be functionally related to cognitive performance and appears at times of difficulty with tasks related to executive function, problem solving, and mathematics.

Cognitive and educational studies provide encouragement for any experiment that attempts to improve student achievement by utilizing a reading program that promotes specific strategies in decoding and comprehension through teacher think-aloud and explicit instruction. Educational technology has demonstrated a significant positive effect on student achievement. Kulik (1994) conducted a meta-analysis of 254 controlled studies of students from kindergarten through higher education, which found that computer-based instruction (CBI) had an average effect size of 0.30. For individual studies in which differences in achievement were statistically significant, the difference favored CBI in 94 percent of the cases. Specifically, the studies reveal that the use of technology helps students gain skills in reading comprehension.

2. MATERIALS AND METHODS

Research was conducted with fourth and fifth grade students at an elementary school in Central Florida. The object of the research was testing the degree in which a reading comprehension software program positively effected student learning in mathematics and raise student achievement. The treatment covered 39 students (25 boys and 11 girls). Watson (2001) stated extremely heterogeneous populations required large sample sizes. The participants for this study were not extremely heterogeneous. Participants in this study had three attributes in common: a student enrolled in the fourth or fifth grade at the elementary school, a student who was deficient in reading comprehension skills, and a student who exposed a significant weakness with performance-task, word problem items on mathematical assessments. Although there may have been other attributes that varied for participants, for the purposes of this study that supported the research questions, participants were sufficiently homogeneous to justify a smaller sample size. The ethnic background of the sample was as follows: 24% (9 out of 39) Caucasian, 43% (17 out of 39) African American, and 33% (13 out of 39) Hispanic.

This research was guided by the following research questions:

1. What are the effects of the reading comprehension software intervention on the reading ability of students?
2. Will increased performance with reading comprehension have a collateral effect on students scoring higher with math word problems?
3. Is it possible for reading comprehension skills to be transferred to other academic areas, specifically in mathematics?

The interest through research focused on testing whether a reading comprehension software intervention could result in progress in reading comprehension, and likely transfer to achievement in mathematics. The subjects were assigned to the experimental group so that all 39 students would have an opportunity to improve. The general population of fourth and fifth grade students were assigned to the control group. The treatment allowed for students to receive practice in using basic reading improvement strategies. They worked with interactive exercises to determine main idea, make inferences, and draw conclusions. It appeared that instruction in higher-order thinking skills (determining main idea, making inferences, and drawing conclusions) were common threads for improving the comprehension of text that could lead to the problem-solving skill (e.g., information research, comparing and contrasting, synthesizing, analyzing, and evaluating) development that was necessary to solve word problems.

The intervention for this research aimed to improve reading comprehension by targeting language structures and modeling. The computer-based instructional program selected for this study cultivated progress in critical thinking and reading comprehension skills that would likely transfer to other academic areas. The literature revealed that there were specific software design characteristics that seemed to make a difference in the amount and quality of student learning. Several studies (Bialo and Sivin-Kachala, 1996; Sasser, 1991) demonstrated the importance of (a) having learners exercise some level of control over the pace and sequence of their instruction, (b) guiding students towards making correct answers rather than simply requiring them to persist until they respond correctly, (c) including embedded cognitive strategies, and (d) having the skills or concepts to be learned involve motion or action. The computer-based instructional program selected for this study satisfied four out of these four design characteristics found in the research that seemed to make a difference in the amount and quality of student learning.

The reading comprehension software program used in this study was designed for students in grades three through five. The program contained 120 passages and 1,320 questions. The program contained a feature that provided immediate feedback for students throughout the duration of the program. Assessments placed students in appropriate units of instruction and students advanced as they demonstrated readiness. The student's understanding of each of three texts was measured with reading comprehension questions related to main idea, sequence, inference, and interpretation.

As part of the regular curriculum, all students received reading-comprehension instruction. The teacher used the reading instructional curriculum that had been adopted by the district, which consisted of reading textbooks, related materials, and charts provided by the publishing company. All students participated in a daily 90-minute language arts block, which consisted of 25 to 60 minutes of

whole-group instruction and 45 to 60 minutes of small-group instruction. The whole-group instruction included phonemic awareness, phonics and fluency, and vocabulary and comprehension. The regular reading curriculum also contained a 30-minute block where students participated in a DEAR program. The study used this block of time to implement the intervention.

Thirty-nine students in the experimental group were exposed to the intervention in a computer lab setting for five weeks. Each participant had access to their own computer, headphones, and the computer software program during a 30-minute daily block of time. At the conclusion of the study, students in the experimental group were exposed to the intervention for a maximum of 12.5 hours or 750 minutes depending on their attendance record. The experimental group consisted of fourth and fifth grade students. Despite the difference in ages, all students in the experimental group received the intervention in the same setting. The control group remained with the regular education teacher during a 30-minute block of time. During this time, the student participated in activities that consisted of independent silent sustained reading or group read-aloud reading by the teacher or another student.

The study used four instruments to collect data to measure student achievement: These instruments consisted of (a) embedded pre- and posttest scores in the reading comprehension software program, (b) pre- and posttest scores on the Standardized Test for the Assessment of Reading (STAR), (c) student performance in the classroom setting as measured by a Mastery Skills Checklist for Reading and Literature, and (d) reliable pre-and posttests in which test items and content were closely matched to summative state assessments that assesses the curriculum standards in reading and in mathematics. The Teacher Program Manager (TPM) is the centralized student record-keeping and management system in the reading comprehension software program and is designed to track student performance during the course of the treatment. The primary measurement instrument in this study utilized pre- and posttest results that were embedded in the software program of the reading comprehension intervention. In order to get a fuller picture of the effects of the treatment on student achievement, pre and post test scores on the Standardized Test for the Assessment of Reading (STAR) were used to test the effect of the independent variable of a reading comprehension intervention on student achievement. Achievement changes on reading pre- and posttests were triangulated with student performance in the classroom setting. The progress of each student was measured by his or her teacher and was based upon the classroom work of the student, observations, and tests. Progress was tracked and monitored on a district-created Mastery Skills Checklist which consisted of a list of standards in reading/language arts that a student needed to master based on state standards. A skill was considered mastered if the student had demonstrated a 70% success rate on the assessment. The number of reading/language arts skills mastered by each student at the beginning and at the end of this study was collected to determine student performance. The ten reading/language arts skills indicated on the Mastery Skills Checklist were:

1. the student uses simple strategies to determine meaning and increase vocabulary for reading, including the use of prefixes, suffixes, root words, multiple meanings, antonyms, synonyms, and word relationships;
2. the student reads text and determines the main idea or essential message, identifies relevant supporting details and facts, and arranges events in chronological order;
3. the student identifies author's purpose in simple text;
4. the student reads and organizes information for a variety of purposes including making a report, conducting interviews, taking a test, and performing an authentic task;
5. the student recognizes when the text is primarily intended to persuade;
6. the student recognizes the use of comparison and contrast in a text;
7. the student selects and uses a variety of appropriate reference materials, including multiple representations of information, such as maps, charts, and photographs to gather information for research projects;
8. the student understands the develop and plot and how conflicts are resolved in a story;
9. the student recognizes cause and effect relationships in literary texts;
10. the student knows the similarities and differences among the characters presented in various texts.

Pre-and posttest scores from a summative mathematic assessment were used to explore whether or not increased performance

with reading comprehension had a collateral effect on students scoring higher with math word problems.

Data from the four instruments were analyzed with SPSS using a paired-samples dependent *t* test. Also, a Pearson Product Moment Correlation Coefficient was computed with ratio level data to test for a correlation between increased math scores and reading comprehension scores.

3. RESULTS

There were 39 students selected to participate in the study, but only 35 produced viable data. Three students selected to participate in the study did not attend the summer school session of the school year, in which the five week duration of the study took place and one student did not gain parental permission to participate in the study. The results are presented by the three research questions that were used to guide the study.

Research Question 1: What are the effects of the reading comprehension software intervention on the reading ability of students?

To determine the effect of the reading comprehension software program on student achievement, a paired-samples *t*-test at a 95% confidence interval was conducted to determine the statistical significance between the pre- and posttest scores on reading comprehension assessments that were embedded in the software program. Posttest scale scores of students averaged 9.62 percentage points higher than pretest scores after treatment. The test produced a two-tailed significant coefficient of .000 which proved that the effect of the reading comprehension software program was statistically significant in testing whether a reading comprehension software intervention could result in progress in reading comprehension.

To further determine the effect of the reading comprehension software program on student achievement, a paired-samples *t*-test at a 95% confidence interval was conducted to determine the statistical significance between the pre- and posttest scores of students on the STAR Assessment. In order to provide a basis for deriving the norm-referenced scores, on the STAR assessment, it was necessary to convert all the results of STAR Reading tests to scores on a common scale. STAR Reading software does this in two steps. First, maximum likelihood was used to estimate each student's location on the Rasch model, which provides a foundation for the measurement of quantitative attributes and traits on a continuum. Second, the Rasch ability scores were converted to STAR Reading Scaled Scores. STAR Reading Scaled Scores range from 0 to 1400. Posttest scale scores of students averaged 108 scale score points higher per student after treatment. The test produced a two-tailed significant coefficient of .000 which proved that the effect of the reading comprehension software program was statistically significant in testing whether a reading comprehension software intervention could result in progress in reading comprehension.

To further determine the effect of the reading comprehension software program on student achievement, data that supported achievement gains on the reading pre- and posttest was triangulated with student performance in the classroom setting as indicated by the Mastery Skills Checklist. to further determine the effect of the reading comprehension software program on student achievement. Ten reading skills, to measure student progress in reading, were assessed before and after the intervention. The progress of each student was measured by his or her teacher and was based upon the classroom work of the student, observations, and tests. Pre-intervention and post-intervention data recorded by the teacher on a checklist was analyzed by the researcher using SPSS software.

Table 1 reveals that the percentage of students who experienced an increase in the number of reading skills increased after the treatment.

Table 1. The percentage of students who mastered each Mastery Skill in Reading before and after treatment

Mastery Skill	Percentage Mastered		Percentage gained
	Before treatment	After treatment	
1. Uses simple strategies	16.7	66.7	50
2. Determines the main idea	16.7	75	58.3
3. Determines author's purpose	61.1	66.7	5.6
4. Reads and organizes information	38.9	47.2	8.3
5. Recognizes persuasive text	36.1	50	13.9
6. Makes comparisons	22.2	30.6	8.4
7. Uses reference materials	69.4	74.9	5.5
8. Understands plot	41.7	47.2	5.5
9. Recognizes cause and effect	16.7	66.7	50
10. Compares characters	25.0	66.7	41.7

Next, a paired samples *t*-test was conducted at a 95% confidence interval using SPSS software to determine the statistical significance of the growth for each of the ten reading skills. As shown in Table 2, some of the reading skills of students increased to a higher degree than others and the effects of the treatment were significant. The paired tests of five Mastery Skills: (a) uses simple strategies, (b) determines the main idea, (c) recognizes persuasive text, (d) recognizes cause and effect, and (e) compares characters produced a two-tailed significant coefficient of .000 which suggested that it was likely that the tutorial software had a statistically significant effect on increasing these Mastery Skills. The paired tests of five Mastery Skills: (a) determines author's purpose, (b) reads and organizes information, (c) makes comparisons, (d) uses reference materials, and (e) understands plot produced a two-tailed significant coefficient greater than the .05 alpha level. Thus, the effect of the reading comprehension software program was determined not to be statistically significant on these Mastery Skills.

Table 2. Paired-Samples t-Tests of Significance Results (N=35)

Pair	*M* difference	*SD*	*SE* mean	*t*-test value	*df*	2-tailed sig.
1. Uses simple strategies	+.500	.663	.114	+4.398	34	.000
2. Determines the main idea	+.600	.604	.102	+5.878	34	.000
3. Determines author's purpose	+.057	.236	.404	+1.435	34	.160
4. Reads and organizes information	+.086	.284	.048	+1.785	34	.083
5. Recognizes persuasive text	+.114	.323	.055	+2.095	34	.044
6. Makes comparisons	+.086	.284	.048	+1.785	34	.083
7. Uses reference materials	+.057	.236	.404	+1.435	34	.160
8. Understands plot	+.057	.236	.404	+1.435	34	.160
9. Recognizes cause and effect	+.514	.507	.086	-6.000	34	.000
10. Compares characters	+.429	.502	.085	+5.050	34	.000

Research Question 2: Will increased performance with reading comprehension have a collateral effect on students scoring higher with math word problems?

To determine whether or not increased performance with reading comprehension had a collateral effect on students scoring higher with math word problems, it was appropriate to compare pre- and posttest scores of a district created progress monitor assessment. An item analysis and comparison was conducted by the school district to ensure that the test items on the progress monitor instrument were closely matched to summative state assessments that assess mathematical curriculum standards. The progress monitor assessment consisted of 44 multiple-choice and gridded-response items that related to benchmark standards of the state standards in mathematics. Sixty percent (21 out of 35) of students experienced gains in mathematics during the course of the reading comprehension software treatment. Students earned a mean score of 32 correct on the pre- and 33 correct on the posttest (out of 44 possible points) resulting in an increase of 1 point.

A paired-samples *t*-test at a 95% confidence interval was conducted to determine the statistical significance between the pre- and posttest scale score points of students. The test produced a two-tailed significant coefficient of .210 which proved that that the tutorial software did not have a statistically significant effect in students scoring higher with math word problems if they experienced increased performance with reading comprehension.

Research Question 3: Is it possible for reading comprehension skills to be transferred to other academic areas, specifically in mathematics?

A Pearson Product Moment Correlation Coefficient was computed using SPSS software to test for a correlation between increased math scores and reading comprehension scores. The test produced a negative correlation of .006 which indicated that there was little correlation between the effects of the reading comprehension software program on student achievement in mathematics. The negative relationship between increased math scores and reading comprehension scores indicated that as reading scores increase as a result of the computer software, it is unlikely that student achievement in mathematics would increase as well. According to the results of the Pearson Product Moment Correlation Coefficient calculated in this study, it was not possible for reading comprehension skills to be transferred to the mathematic content area.

4. DISCUSSIONS

The main purpose of this study was to examine the effect of a reading comprehension software program on student achievement. The quantitative data produced within this study supported that the reading comprehension software program is an efficient instructional tool for increasing student achievement in reading (research question number one). However, data produced within this study did not conclusively support that the increase of reading comprehension skills had a collateral effect on students scoring higher with math word problems (research question number two). Furthermore, data produced within this study did not conclusively support that it might be possible for reading comprehension skills to be transferred to other academic areas, specifically in mathematics, as indicated in research question number three.

A reading comprehension software program was implemented based on research outlined in the literature and, therefore, similar achievement results we anticipated. The findings suggest that Computer Assisted Instruction (CAI) is an effective way of increasing student achievement. The implications of the findings of this study are discussed as a function of two major factors that could be critical to facilitating optimal conditions of this study. One factor is the use of computer assisted instruction that has research-based instructional design components. There are specific instructional design components of software that accelerate student learning. It is critical that educational leaders select software that has research-based instructional design components that demonstrate the importance of: (a) having learners exercise some level of control over the pace and sequence of their instruction, (b) guiding students towards making correct answers rather than simply requiring them to persist until they respond correctly, (c) including embedded cognitive strategies, and (d) the skills or concepts to be learned involve motion or action (Bialo and Sivin-Kachala, 1996). Therefore, educational leaders should select software that contains explicit instruction designed to provide remedial services that address the deficiency of the student.

Another factor that could be critical to facilitating optimal conditions of this study is providing supplemental instruction in mathematics that includes teacher modeling of the analysis and solution process for sample word problems. The four-step problem-solving process of Polya (1945) requires the problem solver to (a) read the problem, (b) understand the problem, (c) solve the problem, and (d) look back. The reading comprehension software program targeted reading comprehension that could aid students in the initial problem-solving phases. During treatment in the study, students received schema strategy training in problem schemata (conceptual understanding) and problem solution (procedural understanding). The third phase of the four-step problem-solving process requires that students select and use appropriate strategies to respond to the problem. These strategies might be student created or introduced by the teacher. In either case, there are a myriad of strategies that students can rely on to solve problems (e.g. use trial and error; look for patterns; make a model; eliminate possibilities; use simpler numbers; make a table, chart, or diagram; draw a picture; work backward; and estimate). Supplemental, explicit instruction in mathematics that included teacher modeling of the analysis, and solution process for sample word problems would have been beneficial to students in the third phase of the problem-solving process. The study identified several reasons that the program was effective, one of which was that, rather than isolating computer skills from academic learning, educational leaders should integrate technology into the instructional program. By supplementing the intervention with instruction related to the third phase of the problem-solving process, the analysis and solution process for sample word problems, it appears that the intervention would have the potential to have a collateral effect on students scoring higher with math word problems.

5. CONCLUSIONS

Although the primary goal of this intervention was to examine the effect of a reading comprehension software program on student achievement, it was proposed that positive results might transfer to achievement in other academic areas, specifically in math. Critical reflection on the success and shortcoming of the intervention were explored and discussed in a manner conducive to providing insight to educational leaders who plan to implement tutorial software as a means for increasing student achievement. The findings of this study supports full-scale implementation of the intervention as an efficient instructional tool to increase student achievement in reading. Educational leaders should select software

that contains explicit instruction designed to provide remedial services that address the deficiency of the student. The reading comprehension software was an effective instructional tool for increasing student achievement in reading, but was not as successful at increasing student achievement mathematics.

Reading comprehension programs could aid students in mathematics in the initial problem-solving phases when conceptual understanding and procedural understanding is required of students. However, supplemental, explicit instruction that included teacher modeling of the analysis, and solution process for sample word problems should be integrated. Therefore, it is the educational leader's responsibility to promote the success of all students by advocating, nurturing, and sustaining an instructional program that is conducive to student learning. This approach is facilitated by providing technologies that are used in teaching and learning and that curriculum decisions are partially based on research.

There are several limitations to this study. First, this research integrated a reading comprehension software program into a summer school traditional language arts program for a period of 5 weeks. The shortness of the intervention limited reliable results, and a longer exposure to the intervention might have yielded results that would have been considered more reliable. Additional factors to consider in future studies include the level of performance and effort placed into the delivery of instruction by different teachers. The instructional activities selected by each teacher may have hindered or accelerated student achievement during the duration of the study and limited the reliability of the results. Future research should examine whether reading-comprehension software programs can make significant contributions to student learning in mathematics, particularly in solving word problems. An attempt to account for the different results produced by varied instructional settings should be made by researchers. Also, it is essential to determine specific exposure guidelines and the most effective teacher instruction.

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Conflict of interests

The author declare no conflict of interest.

REFERENCES

Adams, T. L. (2003). Reading mathematics: More than words can say. *Reading Teacher*, 56(8) 786-795.

Bialo, E.R., & Sivin-Kachala, J. (1996). *The effectiveness of technology in schools: A summary of recent research.* Washington, DC: Software Publishers Association.

Carnine, L., & Carnine, D. (2004). The interaction of reading skills and science content knowledge when teaching struggling secondary students. *Reading & Writing Quarterly*, *20*(2), 203-218.

Crowe, L. K. (2005). Comparison of two oral reading feedback strategies in improving reading comprehension of school-age children with low reading ability. *Remedial and Special Education*, *26*(1), 32-42.

Fuentes, P. (1998). Reading comprehension in mathematics. *The Clearing House*, *72*(2), 81-88.

Graesser, A. C., Singer, M., & Trabasso, T. (1994). Constructing inferences during narrative text comprehension. *Psychological review*, *101*(3), 371.

Hyde, A. (2007). Mathematics and cognition. *Educational Leadership*, *65*(3), 43-47.

Jitendra, A., DiPipi, C. M., & Perron-Jones, N. (2002). An Exploratory Study of Schema-Based Word-Problem—Solving Instruction for Middle School Students with Learning Disabilities An Emphasis on Conceptual and Procedural Understanding. *The Journal of Special Education*, *36*(1), 23-38.

Kulik, J. A. (1994). Meta-analytic studies of findings on computer-based instruction. *Technology assessment in education and training*, *1*, 9-34.

Pany, D., & McCoy, K. M. (1988). Effects of corrective feedback on word accuracy and reading comprehension of readers with learning disabilities. *Journal of Learning Disabilities*, *21*(9), 546-550.

Polya, G. (1945). How to Solve It. Princeton University Press. *Princeton, NJ*.

Sasser, J. E. (1991). The effect of using computer tutorials as homework assignments on the mathematics achievement of elementary education majors. *Journal of Computers in Mathematics and Science Teaching,* 10(2), 95-102.

Shany, M. T., & Biemiller, A. (1995). Assisted reading practice: Effects on performance for poor readers in grades 3 and 4. *Reading research quarterly*, 382-395.

Steele, M. M., & Steele, J. W. (1999). DISCOVER: An

intelligent tutoring system for teaching students with learning difficulties to solve word problems. *Journal of Computers in Mathematics and Science Teaching*, *18*(4), 351-359.

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Vygotsky, L. S. (1987). Thinking and speech. In R.W. Rieber & A.S. Carton (Eds.), The collected works of L.S. Vygotsky, Volume 1: *Problems of general psychology* (pp. 39–285). New York: Plenum Press. (Original work published 1934.)

Watson, J. (2001). *How to Determine a Sample Size: Tipsheet# 60*, University Park, PA: Penn State Cooperative Extension. Retrieved on, 21(10), 2012. Retrieved from http://www.extension.psu.edu/evaluation/pdf/TS60.pdf

Winsler, A., Abar, B., Feder, M. A., Schunn, C. D., & Rubio, D. A. (2007). Private speech and executive functioning among high-functioning children with autistic spectrum disorders. *Journal of Autism and Developmental Disorders*, *37*(9), 1617-1635.

TEACHERS, STUDENTS AND EXTRACURRICULAR ACTIVITIES IN PRIMARY EDUCATION

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ABSTRACT

In the scientific public, since long ago, there has been an interest in studying leisure time. Leisure time is a central issue of modern civilization, integral part of the structure of modern society and a significant factor for a person's development. The goal of this research is to study the modern concept of and the benefits from the introduction of leisure (extracurricular) activities in the primary education process. Certain investigations show that teachers, through extracurricular activities, can have a significant role in building and improving the talents of students. From the answers received in the enquiry it can be seen that both teachers and students have different attitudes and interests regarding extracurricular activities.
The school has still the best position and the hope for developing students' skills for the wide world of extracurricular activities.

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1. INTRODUCTION

A few important points can be distinguished, which impose the need for scientific justification for investigation of leisure time. Firstly, scientific justification is reflected in the fact that the issue of leisure time hasn't been yet a subject of permanent and systematic pedagogical research. Secondly, leisure time as a field of modern pedagogical science is not treated enough from the aspect of all the technical, technological and material conditions. Furthermore, efforts ought to be made for students' education and training through leisure time (extracurricular) activities. A very important problem is that in the Republic of Macedonia there is no theoretically elaborated scientific paper in this field (Barakoska, 2005).

The need for investigating the problem of leisure time in general and for investigating students' free time in particular, gets special importance if it is viewed also from the aspect of current problems of our society, defined as a society in transition.

That's why this subject of investigation has the intention and the goal of reaching to the children – the youngsters, and this way to act purposefully as much as it is beneficial, in order to have some positive repercussions – more specifically, in the part of everyday fulfillment of life in every time, s.c. free will for fulfilling leisure activities or the free time. This necessity is indicated also by some unacceptable acts and behaviours of young people in everyday life, i.e. young people are the hardest stricken category by the phenomenon's of social pathology, and for that reason they become addicted to modern vices like drugs, alcohol, influences of the political parties and so on, and in the process they may transform into deviant and delinquent persons. A large number of youngsters socialize with their alike, i.e. with those who have similar systems of values, orientations, economic status and interests (Marković, 1997). Instead of building themselves as successful persons, they set on the road to destruction.

Delinquency is more frequent where there are problems present in the family life, which is where the children are less connected with their family, since the parents "waste" themselves on daily basis for satisfying material needs of the family, thereby not finding enough time for proper socializing with their

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own children. The parents lose their sense for the developmental needs of their children who become more and more vulnerable because they are exposed to provocative kitsch, moral slime, profiteering competitions, recruitment by religious sects (Budimir-Ninković, 2008).

This description of the contemporary situation in the world is confirmed by the members of the new Roman club who, in their report on the dilemmas of the modern society, also indicate the "complex of problems" that trouble the people from all nations: unemployment, alienation of young people from their families, rejection of the traditional values, and other financial and economic anomalies (Plenković, J., and Zalokar, J. 2000).

German sociologist Ralph Dahrendorf, in his very interesting analysis of leisure time, comes to the conclusion that leisure time is a precondition for a person's freedom and self-development. According to him, leisure time becomes an essential factor for the individual by the very fact it eliminates the compulsion present in the production process during working hours and enables development of the individual. Therefrom it follows that development of a person's abilities and improvement of one's own qualities is a fundamental task in life. Becoming "improved" is a goal that has to be achieved through independent work over one's own self. For fulfilling that task, the person ought in the first place to get acquainted with himself/herself, and only then to start self-creation. Aristotle (Woodfin R., Groves, J., 2003) has said: "The hardest won victory is to defeat your own." When I say this, I want to stress that the issue here is not education, but self-education instead.

One very important name in the field of sociology is Joffre Dumazedier, who interprets leisure time as a "system of activities to whom the person surrends completely no matter whether he/she uses it for rest or recreation, or for developing his/her own free creative abilities, after being relieved from the own professional, family and social duties (Dumazedier, 1963).

He emphasizes the three main functions of leisure time: repose, entertainment and personal development, but here the issue arises on the classification of these three basic functions, particularly from the aspect of personal development. The third function may instigate in the person a free discipline because of the free development of the personality in both individual and social manners.

In example, the great Greek philosophers Plato and Aristotle (Corbett, E. P., 1984) didn't disparage playing, or considered it being useless activity. Plato points out that young people, through playing and musical education, become straight citizens who start building what was destructed by their predecessors. This way, Plato wants to stress the need of youngsters to play and to express their specific way of feeling satisfaction. On his part, Aristotle insists on connecting work with play, and points out the need for understanding contradictions between work and entertainment, where entertainment for the free citizens is a fundament of everything and is necessary for developing noble educational activities.

The big scope of extracurricular activities and their contents enable young people to acquire values and properties which may be of use in their lives. In the era of modern technology, education and research become necessary for being able to do the jobs properly. The human isn't able without knowing things to create, produce and make earning. That's why Ronald Burt deems the generations from 1960s onwards as thinking generations.

Although the provision of extracurricular activities at school has a long tradition in some countries, it was only at the beginning of the millennium that the quality of education and extracurricular activities started to receive increased attention in educational policy and practice in Europe. In 2003, for example, the "all-day school" started to be promoted in Germany and the number of these schools was expanded across the nation. At the same time, "the integrated school day" with organized extracurricular activities as a part of school had just been introduced in Finland with the goal of decreasing the amount of time children spend unsupervised. A similar development can be identifi ed around this time in England, where "extended services" were provided, including extracurricular activities at schools, in an attempt to build cooperation between schools and families. In Switzerland there have been similar changes to the school system over the past decade whereas in the United States of America this development began in the 1990s. In most of the countries represented in this special issue of the Journal for Educational Research Online, extracurricular enrichment is off ered in schools in the form of after-school activities. Extracurricular activities take place on a regular basis and are supervised by adults. They include academic activities such as remedial courses and non-academic activities such as sports, theatre, and gardening. In addition, community programs are off ered at schools by youth organizations

such as scouts. Typically, all these activities do not adhere to a curriculum and performance is not graded (Fischer, Radisch and Schüpbach, 2014).

Roorda, Koomen, Spilt and Oort used a meta-analytic approach to investigate the associations between affective qualities of teacher–student relationships (TSRs) and students' school engagement and achievement. Results were based on 99 studies, including students from preschool to high school. Separate analyses were conducted for positive relationships and engagement (k = 61 studies, N = 88,417 students), negative relationships and engagement (k = 18, N = 5,847), positive relationships and achievement (k = 61, N = 52,718), and negative relationships and achievement (k = 28, N = 18,944). Overall, associations of both positive and negative relationships with engagement were medium to large, whereas associations with achievement were small to medium. Some of these associations were weaker, but still statistically significant, after correction for methodological biases. Overall, stronger effects were found in the higher grades. Nevertheless, the effects of negative relationships were stronger in primary than in secondary school (Roorda, Koomen, Spilt and Oort, 2011).

Several review articles also have examined the connections between physical activity and academic behavior and achievement. Sibley and Etnier conducted a meta-analysis of published studies relating physical activity and cognition in youth. Two additional reviews described the evidence for relationships between physical activity, brain physiology, cognition, emotion, and academic achievement among children, drawing from studies of humans and other animals across the lifespan. Finally, two other reviews summarized select peer-reviewed research on the relationship between physical activity and academic performance, with an emphasis on school settings and policies. Research also has explored the relationships among physical education and physical activity, fitness levels and motor skill development, and academic performance. For example, several studies have shown a positive relationship between increased physical fitness levels and academic achievement as well as fitness levels and measures of cognitive skills and attitudes. In addition, other studies have shown that improved motor skill levels are positively related to improvements in academic achievement and measures of cognitive skills and attitudes (Rasberry et al, 2011).

2. MATERIALS AND METHODS

In this research the descriptive and analytical method is used, where analysis of the current state, comparation and generalization are employed. The technique implemented in the research is enquiry using evaluation scale. According to this technique, a questionnaire was created that uses a scale for evaluating extracurricular activities, for both students and teachers.

The main hypothesis is the assumption that there are different interests for including students and teachers in the process of extracurricular activities.

In this research there is one main and ten auxiliary hypotheses, which doesn't mean the importance of the latter is less, but that they complement the main hypothesis. For this research, four primary schools (three urban and one rural) on the territory of the Municipalities of Tetovo and Brvenica were selected: OU "Bratstvo – Migeni", Tetovo; OU "Kiril i Metodij", Tetovo; OU "Lirija", Tetovo; and OU "Kosta Racin", Brvenica. The enquiry covered students of the age between 12 and 15 years, and teachers. The total number of examinees was 248 (184 students and 64 teachers).

The research comprised two questionnaires, one for students and one for teachers.

3. RESULTS

Question 1: In what extent you think extra curricular activities are in the function of developing your knowledge and skills?

Table 1. Results of statistical analysis of question 1.

	Frequency (f)	Percentage %	Cumulative
A lot	88	47.83	47.83
Partially	85	46.20	94.02
At all	11	5.98	100.00
In total	184	100.00	

H5 – The students are in sufficient extent enabled to satisfy their needs and interests and to develop their individual abilities and preferences.

Table 2. Results of statistical analysis of H5.

Observation	Arithmetic mean	Standard deviation	Min	Max	x^2 test
184	1.581522	.6040717	1	3	62.033

The hypothesis can be examined through Question 1 for the students (In what extent you think extracurricular activities are in the function of developing your knowledge and skills?), and from the results obtained it is obvious that a large percentage of the students (47.83%) answered "a lot", i.e. they can satisfy their needs and interests and develop their individual abilities and preferences, which way the hypothesis can be considered acceptable.

Question 2: In what extent you think the work of the teachers in the curriculum differs from that in the extracurricular activities?

Table 3. Results of statistical analysis of question 2.

	Frequency (f)	Percentage %	Cumulative
A lot	55	30.22	30.22
Partially	79	43.41	73.63
At all	48	26.37	100.00
In total	182	100.00	

H1 – The students think there is difference in the work of their teachers and in their attitude towards the students in the curriculum and in extracurricular activities.

Table 4. Results of statistical analysis of H1.

Observation	Arithmetic mean	Standard deviation	Min	Max	x^2 test
182	1.961538	.7533746	1	3	8.714

The hypothesis can also be examined through Question 2 for the students (In what extent you think the work of the teachers in the curriculum differs from that in the extracurricular activities?), and from the results obtained it is obvious that the largest percentage of the students (43.41%) and a quite large percentage (30.22%) think there is difference between their teachers' work and attitude towards them in the curriculum and in the extracurricular activities, which way the hypothesis cannot be considered completely acceptable. This is so for the reason that there is some difference between teachers' work and attitude towards students in the curriculum and in the extracurricular activities.

4. DISCUSSION

Among the scientific public, since long ago there has been an interest in studying free time in general, and especially in studying free time from pedagogical aspect.

The actuality of the subject of investigation is a first degree basis of this topic and the main key to it is always the useful usage of extracurricular activities of students and teachers in the process of primary education; for that reason, as a contradiction there are always present the problems occurring as a consequence of inappropriate use of extracurricular activities. Large number of cases of deviant and delinquent behaviour happen because of boredom, incapability of the individuals to creatively fulfill their free time, and then in these persons a frustration appears regarding their creative potential, which way the individuals become destructive persons.

A large number of youngsters socialize with their alike, i.e. with those who have similar systems of values, orientations, economic status and interests. Instead of building themselves as successful persons, they set on the road to destruction. The influence of the so-called functional education is of dominant importance when it comes to young people's education regarding their free time. This is our reality which is more and more present in free time, for which we ought to prepare the children, to make them resistant and capable of making choices by themselves regarding negative influences, which are anyway enough and against which we cannot fight only by using "morals".

Students' extracurricular activities in school, managed by experienced teachers, can help the young people to build their own attitudes and behaviour, enabling them a positive development and socially acceptable conduct.

The appearance of free time is a product of the modern society and is very closely related to the pace of technical and technological development, and this way it is an issue which still belongs in the sphere of theoretical research. That's why every society, in every period of time, has conceived extracurricular activity programmes, in order to suppress socially pathological behaviour of young people. Certain investigations have shown that teachers, through their work in the process of extracurricular activities, can have a significant role in building and improving students' talents.

5. CONCLUSIONS

When education and extracurricular activities are understood in their complementarity and their specific relations are accepted, then they both create perspectives for options. Both of them, through their action, cover the person's entire growth throughout his/her life, and they both include the experience of learning and living into the realization of human potentials. The school has still the best position and the hope

for developing skills in the students for the wide world of extracurricular activities. That's why we can direct our suggestions into redesigning the structure of schooling programs, and we ought to enable students' initiative and cooperation.

For this reason the teachers ought to support more the freedom in the educational process as well as the feeling of satisfaction by that. Only then the school can become a preoperational step for free activities in the full meaning of the word.

Pedagogical science treats leisure time as an important factor for the realization of the goals of education, but at the same time as a factor of education of the person for cultural and valuable spending the free time. With the very engagement of the students in extracurricular activities satisfaction of their interests is enabled, in the same time positively influencing the complete development of their personality. Also, socially acceptable values are formed, which will further contribute to the development of every modern society.

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REFERENCES

Barakoska, A. (2005). *Pedagogija na slobodnoto vreme*. Filozofski fakultet, Skopje.

Budimir-Ninković, G. (2008). *Hrestomatija slobodnog vremena*, Pedagoški fakultet, Jagodina.

Corbett, E. P. (1984). *Essays on classical rhetoric and modern discourse*. R. J. Connors, L. S. Ede, & A. A. Lunsford (Eds.). SIU Press.

Dumazedier, J. (1963). *Vers une civilisation du loisir?* Editions du Seul. Paris.

Fischer, N., Radisch, F., & Schüpbach, M. (2014). International perspectives on extracurricular activities: Conditions of effects on student development, communities and schools-Editorial. *Journal for educational research online, 6(3),* 5-9.

Marković, M. (1997). Kultura slobodnog vremena dece i omladine, *Zbornik radova,* Viša škola za obra¬zovanje vaspitača, Šabac.

Plenković, J., & Zalokar, J. (2000). *Slobodno vrijeme mladeži.* Društvo prijatelja Hrvatska-Japan.

Rasberry, C. N., Lee, S. M., Robin, L., Laris, B. A., Russell, L. A., Coyle, K. K., & Nihiser, A. J. (2011). The association between school-based physical activity, including physical education, and academic performance: a systematic review of the literature. *Preventive medicine, 52*, S10-S20.

Roorda, D. L., Koomen, H. M., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher–student relationships on students' school engagement and achievement a meta-analytic approach. *Review of Educational Research, 81(4),* 493-529.

Woodfin R., Groves, J. (2003). *Aristotel za početnike*, Zagreb: Naklada Jesenski i Turk.

INFLUENCE OF PROGRAMMED EXERCISE ON THE MOTOR ABILITIES OF PRESCHOOL CHILDREN

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ABSTRACT

The research was conducted on a sample of 46 examinees consisting of male children of preschool institutions in Niš, aged five and six ± 6 months. The main objective of the research was to determine the adaptive processes influenced by programmed exercise on the development of motor skills of preschool children. The aim was to provide the conditions for the establishment of rational procedures for optimal planning, programming and control of the motor exercise of preschool children. The assessment of the examinees was measured by motor tests based on the experience with adult counterparts and modified for young children. The study examined four motor dimensions: agility (running with direction shift), repetitive strength (lateral hops over the rope), flexibility (bend on the bench) and explosive strength (standing long jump). The data obtained by these tests, using the method of multivariate and univariate analysis of variance, showed that at the end of the programmed exercise, there has been a statistically significant increase in motor abilities in the final measurement he initial.

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1. INTRODUCTION

Insufficient motor activity in preschool age adversely affects not only the development of abilities and characteristics, but also the health status of the child. The appearance of flat feet, improper posture, increase of ballast weight, less than optimal cardiovascular system, reduced function of the locomotor system etc. often come as a result of lack of movement. In the later period of a child's life these conditions are manifested by the appearance of a variety of conditions such as hypertension, diabetes, osteoporosis and cardiovascular diseases.

There have been numerous papers that deal with the positive influence of sports on the health of children and youth. Research shows that participation in sports activities contributes to better mental health, increased self-confidence and concentration, reducing the symptoms of depression, stress and anxiety (Findak, 1995; Ismail, 1976; Hraski and Živčić, 1996; Sabo, 2003; Pejčić, 2005; Bala, 2007).

It is well known that children of preschool age who engage in sports activities are more active as young people and adults.

Planning, programming, implementation, evaluation and control of the adaptive process for children in preschool institutions are some of the main tasks of teachers.

Analysis of the impact of exercise on children of preschool age is increasingly becoming the subject of scientific research (Kosinac, 1999; Findak, V. and Delija, K., 2001; Špelić and Božić, 2002; Bala and Popović, 2007; Bala, 2009; Mišigoj-Durakovic, 2008).

In order to successfully analyse the influence of exercise, it is important to resolve the issues of programming and control of instructional methods and the choice of methodological procedures that are suitable for the problem being analysed.

The main objective of the research was to determine the adaptive processes under the influence of programmed exercise on the development of motor skills of preschool children. The realization of such a goal would give us the ability to form rational procedures for optimal planning, programming and control of the motor exercise of children in kindergartens.

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2. MATERIALS AND METHODS

The population from which the sample of 46 examinees was taken are male children of preschool institutions in Nis, aged five and six ± 6 months.

The assessment of the examinees was measured by motor tests based on the experience with adult counterparts and modified for young children (Bala, 2007).

The study examined four motor dimensions: agility (running with direction shift- MTPS), repetitive strength (lateral hops over the rope- MPBK), flexibility (bend on the bench- MPKL) and explosive strength (standing long jump- MSDM).

The tests were defined in the following way:

1) MTPS - running with a change of direction: Two lines are drawn on the ground at a distance of 3 meters. At the signal of the measurer the examinee has to run four times from one line to the other and at each change of direction he has to cross the line marked on the ground with at least one foot. The measured time is from the sign "now" until the moment when the examinee crosses the line marked on the ground for the fourth time. The result is entered in seconds.

2) MPBK - lateral hops over the rope: The examinee stands laterally by the rope that is placed on the ground. At the signal of the measurer he starts jumping laterally with both feet without mid-jump across the rope. The task is performed for 20 seconds. The result of the test is the number of repetitions of the cycle which consists of one hop over the rope and one backwards.

3) MPKL - bend on the bench: The examinee stands on the bench with both feet, raises his arms up and bends down with straight legs towards the measuring tape. The result is entered in centimetres.

4) MSDM - standing long jump: The examinee stands on the mat with both feet and jumps with a swing of his arms. The length of the jump is measured by a tape from the point of jump to the landing point of the back of the foot, and the result is entered in centimetres.

The determination of quantitative differences of motor abilities between the two measurements was performed using the analysis of variance at the multivariate (MANOVA) and univariate level (ANOVA). The processing of the results was performed using the SPSS statistical package, version 6.0.

A multivariate analysis of variance was used in order to examine the global change in the motor abilities of boys between the initial and final measurements, appropriate for dependent results (MANOVA). To test the partial change between the initial and final measurement in the motor abilities of boys we used the results (ANOVA).

The analysis of the results was performed using the SPSS statistical package, version 6.0. With the preschool age children there were measurements of specific motor dimensions at the start of program execution (initial measurement) and at the end (final measurement).

The sports programme which was implemented in kindergartens of the city of Niš was adapted to the abilities and characteristics of preschool children. Special attention was paid to the development of basic motor skills (overcoming space, overcoming obstacles, overcoming resistance and manipulation of objects) and the adoption of specific motor skills in individual sports activities. The exercises included fast running (10 and 20m running forward, backward and lateral); exercises with the ball (passing and catching the ball in the movement, keeping a straight line and the curved line with a ball, carrying the ball in a straight line alternating one with the other hand); jumps (standing long jump, running long jump, running long jump across a tape placed at a height of 30 to 40cm). The programme was performed four times a week for 45 minutes in specially prepared areas depending on the material conditions and the use of teaching aids lead by a team of professionals composed of P.E teachers, preschool teachers and pedagogues.

The structure of teaching programmes in this group had a large transformational influence on the development of motor skills and the increase in the level of technical and tactical skills of the examinees.

3. RESULTS

Table 1. Multivariate analysis of variance of the motor abilities of the examinees between the initial and the final measurements.

Wilks' Lambda	F	P-level
.146	8.12	.000*

Table 1 shows the results of testing the significance of the differences in the arithmetic mean of all tests between the initial and the final measurements. It was found that there were statistically significant differences between the initial and final measurements, giv-

en the level of Wilks' Lambda test (.146) and the size of F-ratio (8.12), as evidenced by the significant differences in the P-level = .000 *.

Table 2. Univariate analysis of variance of the motor tests between the initial and the final measurements

Variable	Measure.	N	Mean	F-test	P-level
MTPS	IN	46	7.54	3.93	.031*
	FI	46	6.82		
MPBK	IN	46	9.24	4.68	.000**
	FI	46	15.43		
MPKL	IN	46	4.28	3.72	.042*
	FI	46	9.64		
MSDM	IN	46	5.15	5.28	.000**
	FI	46	6.32		

Legend: type of measurement (initial- IN and final- FI), No. of examinees (N), arithmetic mean (Mean), F-ratio value (F- test) and level of its significance (P-level)

Univariate analysis of variance of the motor abilities (Table 2) between the initial and the final measurements indicates that there is a statistically significant difference at the level of .01 in all motor tests, based on the F-test coefficients and their significance (P-level).

4. DISCUSSION AND CONCLUSION

Most of the authors conclude in their works that physical activity of preschool children has a positive impact on reducing obesity, that it helps in building and maintaining muscles and joints and reduces body fat. In addition, children who are physically active have better functional ability and lower blood pressure, lower levels of blood fats and higher cardiorespiratory activity (Bala, 2007).

Early childhood is an extremely important and sensitive developmental period in which the child acquires various experiences. Findak (2001) argues that a child introduces himself to the world around him through movement and establishes communication with the environment which positively affects the development as a whole. For preschool children a biological need for movement and play is particularly emphasized. It happens that some parents neglect these needs, thus depriving children of sensorimotor stimulation, which has a very negative impact on a child's development as a whole.

We cannot talk about the development of certain motor skills at preschool children because their motor functioning is of a general type (Pejčić, 2005; Bala and Popović, 2007). Children react to load with their entire body and overall motor skills. Therefore, when there is impact on a particular motor skill, other capabilities are developed in parallel (Bala and Popović, 2007).

All physical activities with preschool children are best realized through game because it is one of children's primary and natural needs. Children learn about the world through play, learn new moves, fantasize, create, gain friendships and social relationships. It is therefore very important from the earliest days to provide a child with space and time for moving and playing, in order to gain positive habits and a lifelong love for sports.

The research confirmed that there are statistically significant adaptive changes in motor skills under the influence of programmed exercise in examinees of preschool age. It has been proved that with the right intensity, duration and frequency of programmed exercise we can provide an efficient way of continuous improvement of motor abilities.

As an original contribution to science, the research has provided an answer to the question of appropriateness and effectiveness of the implementation of programmed exercise on the motor skills of preschool children.

In recent years, scientists and a significant number of authors have started to pay more attention to preschool children, their lifestyle, diet and motor activities.

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REFERENCES

Bala, G. (2007). Morfološke karakteristike dece predškolskog uzrasta. U G. Bala (Ur): Antropološke karakteristike i sposobnosti predškolske dece. *Novi Sad: Fakultet sporta i fizičkog vaspitanja,* 31-66.

Bala, G. (2009). *Relacije antropoloških karakteristika i sposobnosti predškolske dece.* Fakultet sporta i fizičkog vaspitanja Univerziteta u Novom Sadu.

Bala, G. i Popović, B. (2007). *Motoričke sposobnosti predškolske dece.* U G. Bala (ur.), Antropološke karakteristike i sposobnosti predškolske dece (str. 101-151). Novi Sad: Fakultet sporta i fizičkog vaspitanja.

Findak, V. (1995). *Metodika fizičkog i zdravstvenog*

vaspitanja u predškolskom odgoju. Školska knjiga. Zagreb.

Findak, V., & Delija, K. (2001). Tjelesna i zdravstvena kultura u predškolskom odgoju. *Zagreb: Edip.*

Hraski, Ž., & Živčić, K. (1996). Mogućnosti razvoja motoričkih potencijala djece predškolske dobi. U: *Fitness, Fakultet za fizičku kulturu Sveučilišta u Zagrebu, Zagrebački velesajam, Zagrebački športski savez, Zagreb*.

Ismail, A. H. (1976). Integralni razvoj: Teorija i eksperimentalni rezultati. *Kineziologija* 1, 2: 6-28, Zagreb.

Kosinac, Z. (1999). Morfološko-motorički i funkcionalni razvoj djece predškolske dobi. *Sveučilište u Splitu, Fakultet prirodoslovno-matematičkih znanosti i odgojnih područja u Splitu*, str, 69, 90.

Mišigoj-Duraković, M. (2008). *Kinanthropometry.* Kineziološki fakultet Sveučilišta u Zagrebu.

Pejčić, A. (2005). *Kineziološke aktivnosti za decu predškolske i ranog školskog uzrasta*. Rijeka. Visoka učiteljska škola u Rijeci.

Sabo, E. (2003). Struktura motoričkog prostora i razlike u motoričkim sposobnostima dečaka predškolskog uzrasta pri upisu u osnovnu školu. *Fizička kultura*, 56(1-4), 10-17.

Špelić, A., & Božić, D. (2002). Istraživanje važnosti primjene sportskih programa u predškolskim ustanovama za kasniji razvoj motoričkih sposobnosti. *Drugi dani Mate Demarina*, 145-154.

THE BASIC PRINCIPLES OF RESEARCH IN NEUROEDUCATION STUDIES

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ABSTRACT

The present paper assembles contributions from the areas of education, psychology, cognitive science, and of course, neuroeducation itself to introduce the basic principles of research in the field of neuroeducation studies. It is particularly important, as such it is a useful way to justify researchers about what neuroeducation as a specific domain do that no other field can do as well or cannot do at all. Based on the literature reviewed, neuroeducational research can be understood as an interdisciplinary endeavor to develop an insightful understanding and holistic picture of problems related to learning and education. It thus epistemologically is based on an integrated methodological pluralism paradigm. This requires researchers to understand multiple methods and methodologies and employ as they formulate their own research projects. Researchers have a critical role to play in providing systematic evidence and conclusions that are scientifically valid and reliable and educationally relevant and usable. One significant implication of this argument is the need to strengthen the quality of the research component in graduate programs of the field and train interested researchers in the identification and formulation of relevant research questions.

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1. INTRODUCTION

In recent decades, a growing number of educational researchers have shown an increasing interest in development a new science of learning that can potentially contribute to evidence-based policy and practice in education (e.g. Meltzoff et al., 2009; Howard-Jones, 2011a; Howard-Jones, 2010; Ansari, De Smedt and Grabner, 2012; Schwartz abd Gerlach, 2011; Geake, 2009 & Campbell, 2011). Throughout of this paper, this newly emerging field is termed 'Neuroeducation Studies' and defined as a growing interdisciplinary field based on the synergetic connection between neuroscience, cognitive science, psychology, and education in an effort to improve our theoretical and practical understanding of learning and education (Nouri, 2013). Other terms have been used somewhat synonymously with neuroeducation studies including "Educational Neuroscience" and "Mind, Brain and Education". The term "neuroeducation" according to Howard –Jones (2011a), "better reflects a field with education at its core, uniquely characterized by its own methods and techniques, and which constructs knowledge based on experiential, social and biological evidence" (p. 29). The suffix "studies" is added to best feature its *interdisciplinarity* nature and distinguish it from single disciplines; as such it has been recruited by other interdisciplinary fields such as "Curriculum Studies", Cultural Studies", "Environmental Studies", "Law studies" and so on (Nouri, 2013).

Neuroeducation studies, however, should be completely distinguished from previous initiatives such as "brain-based learning" or "brain-based education" that were common just a few years ago. That kind of language according to Ron Brandt (2012) may have been useful "to get educators' attention, but it has quickly become outmoded" (p. 15). Brain – based education has been strongly

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criticized for promulgating misinterpreted, misconnected, oversimplified, and or overgeneralized conceptions regarding neuroscientific facts. For example, Bruer (1999) sarcastically criticized enthusiasts of brain-based learning in this way:

We can only be thankful that members of the medical profession are more careful in applying biological research to their professional practice than some educators are in applying brain research to theirs (p. 657).

Such misconceptions can lead to 'neuromyths' such as 10% use of the brain, VAK learning styles, left- and right-brain thinking, enriched environments, Brain Gym© method and critical periods. Indeed, none of such false claims are supported by current scientific and educational evidence (Bruer, 1999; OECD, 2002; Goswami, 2004).

Although neuromyths still persisted, the field of neuroeducation studies has experienced considerable progress over the two last decades. However, there is still much significant work to be done to stabilize and advance its disciplinary scope and boundaries. Some scholars in the field emphasize the need to address the issues and concerns pertaining to methodological considerations as one of the most promising and original ways to contribute to the further development of the field (Stein, and Fischer, 2011; Campbell, 2011). Paul Howard-Jones as the most enthusiastic scholar in the area of "neuroeducational research" has already begun to address such concerns (Howard-Jones, 2008; 2010; 2011a; 2011b). In order to significantly come up to problems of the school curriculum and pedagogy, Howard-Jones (2010) outlines the aims of neuroeducational research in two directions that are critically related to each other: to enrich and develop educational understanding and practice; and to further scientific understanding of behaviors associated with learning. He persuasively proposes a multiperspective approach to integrating three types of biological, social and experiential evidence. These evidence are provided by three forms of scientific, bridging and practice-based studies with own specific methods and techniques. Scientific studies focus on developing basic knowledge pertinent to educational concepts. Bridging studies investigate ways that knowledge can be used in more "real-world" educational contexts. And, practice-based studies translate these concepts into best practices that are transferable to educational practitioners.

Other leading scholars in the field, Stein and Fischer (2011) offer a useful conceptual framework for this discussion, identifying *a problem-focused methodological pluralism as* an emergent mode of knowledge production which entails a kind of openness toward different methodological approaches and traditions. They argue that the validity of work in the field is ultimately determined by a kind of *pragmatism* which administrated by three criteria: scientifically valid, educationally relevant, and educationally effective. They also propose the establishment of "research schools" where practice and science jointly shape educational research (Stein and Fischer, 2011; Fischer, 2009).

Following the previous attempts, the present paper assembles contributions from the areas of education, psychology, cognitive science, and of course neuroeducation itself to provide an integrative and holistic understanding of the meaning and scope of research in the field. Specifically, this paper will introduce the basic principles of research in the field to open up a practical space for a constructive engagement with neuroeducational research. It could be argued that such a line of research is necessary as the basis for a common language with which we can begin to formulate interdisciplinary studies focused on educational issues. It is particularly important, as such it is a useful way to justify researchers what neuroeducation as a specific domain within education do that no other field can do as well or cannot do at all. To this end, the first section of paper dedicated to outlining a set of principles that should be considered in conducting scientific research in the field. The second section provides a working definition for neuroeducational research. And, the third section of paper ends with a conclusion and suggests some directions for further development of the field.

A. THE PRINCIPLES OF RESEARCH: RESPONSIBILITIES FOR RESEARCH

This section provides an overview of five methodological principles that influence research in neuroeducation. Simply put, by the term "research", here it is referred to any form of disciplined inquiry aiming to build a valid and reliable base of knowledge about a particular phenomenon through a set of systematic methods and techniques.

The principles need to be understood as a set of standards of inquiry that encourage neuroeducation researchers to think about

the nature and purposes of research and the general expectations for conducting scientific research in the field. Collectively, insightful consideration of such principles is essential in order to ensure that conclusions drawn from research are scientifically valid and reliable and educationally relevance and usable.

2. RESEARCH IN NEUROEDUCATION IS INTERDISCIPLINARY BASED

This principle stands as the basic assumption underlying research in education that defines education as a complex social enterprise. From this point of view, educators need to be able to think about educational issues from a number of points of view. They ought to have enough of a familiarity with other relevant disciplines so that they can at least participate meaningfully when important issues are being addressed (Gardner, 2009). It is, therefore, important to recruit the insights from research in psychology, sociology, philosophy, biology and other contributory disciplines to the field of education. The diversity and different viewpoints from multiple disciplines and within disciplines foster a deeper understanding than viewpoints from one of them. As noted by Popper (1963), "we are not students of some subject matter, but students of problems. And problems may cut right across the borders of any subject matter or discipline." (p. 67).

There is a greater sense of urgency felt today come up with educational issues looking by multidimensional and multidisciplinary lenses. In this way, many educational problems can be solved by bringing together the knowledge and skills of a wide range of disciplinary experts (e.g. educators, philosophers, psychologists, sociologists, anthropologists, and neuroscientists). By this understanding, new opportunities for systematic collaboration between neuroscience, cognitive sciences and education have opened up in recent decades. Researchers working in the field of neuroeducation integrate these neural, psychological and pedagogical bases of learning and development to provide greater insight and understanding into the complexities of educational phenomena. They need to look through these sources of knowledge in order to understand clearly what should be studied? Why and how? Consequently, neuroeducation leaders frequently have cited the need for interaction among members of contributing fields. Researches in Neuroeducation hence need to design studies based on the theories and models of all contributing disciplines and integrate the expertise of multiple disciplines. This is what referred to interdisciplinary research,

"interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice" (National Academy of Sciences, 2005, p. 2).

The potential of neuroeducation to succeed as a field according to Schwartz and Gerlach (2011) rests in its ability to generate new ways of understanding and solving educational problems by employing the perspectives of other disciplines such as (but not limited to) genetics or neuroscience. Those neuroeducators who understand multiple educational perspectives will be better able to formulate and design their own studies regarding educational issues and challenges. Nevertheless, there are few studies of educational issues conducted through collaborations between educators and scientists in the fields of neuroscience and cognitive science. As an example of such work is the study of fostering creativity (Howard-Jones, Winfield and Crimmins, 2008), a collaborative study has been done by an interdisciplinary team and a group of trainee teachers to co-construct concepts about the fostering of creativity thinking.

3. RESEARCH IN NEUROEDUCATION IS PRACTICE BASED

The demanding nature of educational research as *applied* is not new (Stein, and Fischer, 2011) and it is so central in historical thinking in educational research that it is almost a truism and hardly needs restatement. According to Dewey (1929).

Scientific findings are of practical utility, and the situation is wrongly interpreted when it is used to disparage the value of science in the art of education. What it militates against is the transformation of scientific findings into rules of action (p. 19).

In accordance with Dewey's views, Stein and Fischer (2011) have proposed two important goals for neuroeducational research; the first is to understand fundamental problems

concerning the learning and teaching and the second is to utilize this understanding to investigate existing products and develop new ones that would potentially advance the quality of educational practice. They accordingly defend conducting research in the context of practice as the best way to sort out the complex interdisciplinary and epistemological issues surrounding differences between levels of analysis and basic viewpoints. It requires researchers to understand what and how teachers teach and which measurements are most useful and teachers to understand what research currently can deliver and how to frame the demands they make on it (Hardiman et al., 2009).

Neuroeducational research, therefore, needs to strategically focus on improving the curriculum and pedagogy; because the progress of the field is wedded to the progress of educational practices (Stein and Fischer, 2011). It should be focused on integrating research with practice to create useful evidence that illuminates the brain and genetic bases as well as social and cultural influences on learning and teaching (Fischer, et al, 2010). Bringing together scientists and educators in laboratory schools and other forums will encourage a joint solution to problems that neither domain could answer alone (Hardiman, 2009; Worden, et al, 2011). This means that teachers and researchers should be encouraged to involve more in action research so that they can identify and investigate relevant research questions and find possible applications to the classroom. At the same time, they should take into account the possible ways in which research findings may be used.

In the last two decades, much valuable work has been done to build knowledge that is more applicable to the classroom teaching. For example, based on the research on plasticity, Paula Tallal and his colleagues have developed a training software program called "FastForWord" in order to remedy the difficulty in learning to read in some children suffered from dyslexia due to an auditory processing delay in their brain. Since the brain is remarkably adaptive, this program makes it possible to speed up the processing of the sounds of the written word and improve reading skills. Despite the limitations, the effectiveness of the program has been demonstrated in several rigorous studies (Tallal et al., 1996). Inspired by cognitive neuroscience research, Wilson et al. (2006) also have developed "The Number Race" software that has been successful in remediation of dyscalculia. This computerized adaptive game has been designed based on current understanding of the cerebral representation of the number and the hypotheses that dyscalculia could be caused by a core deficit in number sense or in the links between this representation and learned symbolic representations of number.

There are therefore some examples of translating knowledge from basic research to educational application. At the same time, there are also many different commercially-available treatment programs such as "Brain Gym" which are advertised as able to improve cognitive and academic performance. However, there is little or no evidence supporting the efficacy of such programs.

Altogether, there is needed to be cautious in direct translating basic scientific research into educational practice and policy. According to this view, the implementation of basic research results to solve practical problems is often very indirect and rarely straightforward (Ansari, Coch and De Smedt, 2011). Laboratory data need to be rigorously evaluated and carefully tested in a few classrooms before they applied too broadly (Brown and Bjorklund, 1998). It suggests the need for a new field of inquiry that is both scientifically and educationally grounded (Howard-Jones, 2011a).

4. RESEARCH IN NEUROEDUCATON REQUIRES UNDERSTANDING AND EMPLOYING MULTIPLE METHODS AND METHODOLOGIES

As mentioned earlier, neuroeducational research is interdisciplinary in nature. This suggests a selection of the ways in which the natural and social sciences can meet and support each other in neuroeducational research; a research area that attempts to develop both a scientific and educational understanding of learning (Howard-Jones, 2011b).

Although the theories, methods, instruments, and aims of qualitative and quantitative research differ, but there is no overarching reason to see them as inherently incommensurable (Campbell, 2011). One approach is superior to the other only with respect to the nature of the problem under investigation (Eisner, 1994). In this context, all research methods within quantitative and qualitative methodologies have the potential to uncover

new levels of understanding of what goes on in schools. Put another way, no one of these approaches is better than any other. Employing both approaches is advantageous because it becomes possible to bumper the limitations of each approach and to bring out complementary strengths. Longitudinal studies such are of particular importance to the understanding of learning through the lifespan and qualitative methods can contribute to our understanding of mind, brain and education relations. Non-invasive neuroimaging techniques can also be used as a complementary way to uncovering the neural mechanisms underlying learning and development. According to Campbell (2010).

The validity, reliability, and relevance of theories of teaching and learning in education research may variously be corroborated, refined, or refuted through neuroscientific studies or the use of neuroscientific tools and methods to test hypotheses of any particular theoretical account (p. 319).

Indeed, answering questions dealing with complexities of learning and education requires adopting multiple and even inventing new research methodologies. Neuroeducational researchers should thus be open to utilizing converging evidence from diverse levels of explanation, such as a recent work on motivational processes that suggests several educational implications with regard to the generation, maintenance, and regulation of motivation to learn in the learning environment (Kim, 2013). Such line of investigation provides a scientific context within which to understand students' motivation and translate into educational practice.

5. RESEARCH IN NEUROEDUCATION IS CLOSELY ASSOCIATED WITH PHILOSOPHICAL ASSUMPTIONS

Education is an applied field closely related to the philosophy and the key concepts in the field are philosophical in nature. It is the philosophical orientation that determines the aims of education and what should be taught. In the context of research methodology, these relate to differences in ontological and epistemological assumptions. There are different kinds of philosophical orientations and each of them reflects a unique ontological/epistemological viewpoint- what is called research paradigm. A paradigm is a lens of looking at the world. It is composed of certain philosophical assumptions that influence what should be studied, how research should be done, and how results should be interpreted (Bryman, 1988; Mertens, 2005). Depending on their philosophical orientation and related ontological and epistemological assumptions, researchers will be asking different sets of questions about the nature of an educational phenomenon which consequently lead to employing different methodologies and procedures. Research in education can be broadly categorized into five major paradigms- positivism, post-positivism, constructivism, transformative, and pragmatic (Mertens, 2005). Although article space does not permit expansion on these paradigms, the main point is that each paradigm has grounded in fundamentally different assumptions which impose different methodological considerations. Sufficed to say, researchers within each paradigm have their own perceived appropriate philosophical perspectives. However, as Campbell (2011) stated, "it is not necessary for educational neuroscientists of various ilks and inclinations to hold identical philosophical views regarding these matters, but … it does behoove researchers in this area to be open and clear about where they stand on them" (p. 8).

Researchers, therefore, should be able to identify the worldview that most closely approximate their own and guide their thinking and practice (Mertens, 2005). From this point of view, neuroeducational researchers must be aware of methodological assumptions on which they rely and ultimately, be able to openly reflect on and distinguish their own orientation from that of others.

6. RESEARCH IN NEUROEDUCATION IS VALUE SATURATED

As neuroeducators need to understand the philosophical basis of research in education, they also need to understand the moral and ethical aspects of educational policies that policymakers may make based on the results of their research. It is broadly accepted that education is above all a value-laden profession, with its values in perpetual dispute. More so than most other professionals, educators experience competing demands from many stakeholders along with considerably less autonomy and status (Sheridan, Zinchenko, and Gardner, 2006). Indeed, medicine, law, accounting, engineering, and architec-

ture all involve value judgments; however, the core values of these professions are not particularly controversial. In contrast, education is driven by fundamental questions of value on which nearly all citizens have strong and often inconsistent opinions (Gardner, 2009). For example, unlike medicine, which aims at promoting health, education promotes values that reflect the kind of citizen and ultimately the kind of society we aspire to create (Ferrari, 2011). Educational research like other forms of educational activity thus is politically driven and value saturated. For educators, the process of research mainly influenced by ethical questions of what should be taught for what ends or reasons (Yang, 2001; Nixon and Carr, 2003).

While ethical dilemmas in educational research are not new, what makes neuroeducation special is an advance in neurocognitive tools that pose unique ethical challenges. The prevalence of neuromyths could be considered as one of the negative results of such advances which have both educational and ethical implications (Sheridan, Zinchenko, and Gardner, 2006). Neuroeducation researchers have a significant role to play in preventing and debunking these prevalent myths that are not supported by sound empirical data. Researchers, therefore, have a serious obligation to involve in translating research findings into educational applications and producing new knowledge that will contribute to the improvement of educational policy and practice. Such involvement will help policy makers to make informed decisions based on the results of their studies.

Education as mentioned, according to its conception functions and values is a moral enterprise, and educators must not only consider what scientific studies can provide, but they must also evaluate the results and applications of those studies on existing social, ethical, and legal structures (Roskies, 2002; Zambo, 2013). The new area of *educational neuroethics* has arisen in response to such ethical issues and challenges (Zocchi and Pollack, 2013; Hardiman, Rinne, Gregory and Yarmolinskaya, 2012; Lalancette and Campbell, 2012).

In this context, educational theorists, researchers, and practitioners alike have a leading role to play in the ethical issues involved in applying neuroscience research to educational practice. Neuroeducational researchers must consider ethical matters in the treatment of research participants, conducting the research and reporting research findings. They should understand that educational phenomena are strongly tied to policy and practice and need to be aware of the value-laden nature of educational decisions and policies. Furthermore, the rationale, method, analysis, results, and conclusions of the study need to be presented clearly. The method of research should also be chosen with respect to the question being asked and be related to the specific goal of the study.

B. THE OPERATIONAL CONCEPTION OF NEUROEDUCATIONAL RESEARCH

In the last section, the prominent aspects of neuroeducational research were reviewed and outlined into five principles. In this section, a definition is presented that integrates the core concepts embedded in those principles. A common definition will help the field achieve greater depth and sophistication about the meaningful assessment of current brain-based claims and will facilitate collaboration amongst researchers from different disciplines. From this understanding, it is possible to offer an integrated definition of neuroeducational research:

Neuroeducational research is an *interdisciplinary endeavor* to develop an insightful understanding and holistic picture of problems related to *learning and education*. It thus epistemologically is based on an *integrated methodological pluralism* paradigm. This requires researchers to understand *multiple methods and methodologies* and employ as they formulate their own research projects. Researchers have a critical role to play in providing systematic evidence and conclusions that are *scientifically valid* and *reliable* and *educationally relevant* and *usable*.

It should be mentioned that this definition is consistent with the conceptualization that a group of experts in the field agreed about in a recent study aimed to define the boundaries of neuroeducation as a field of study (See Nouri and Mehrmohammadi, 2012).

CONCLUSION REMARKS

While all science shares a set of underlying principles of inquiry, the kinds of research questions and the nature of evidence in neuroeducation are partly unlike the kinds of questions and evidence that psychologists and neuroscientists or even educators might expect.

To take up this challenge, we will have to borrow methods and tools from all contributing fields, and, at the same time, we will undoubtedly have to invent new ones. Noteworthy, Pincham, et al., (2014) have developed a four-stage practical approach that views the educational neuroscientist as a dual research scientist, who is cognisant with neuroscientific and educational research techniques. At the first stage, researchers and teachers work together to identify an educational need that educational neuroscience has the potential to help answer. During the second stage, the educational neuroscientist develops a research proposal that translates or assesses neuroscientific findings within educational settings. Following then, the educational neuroscientist empirically assesses whether findings derived from the laboratory can be used to improve educational practice or student outcomes. The final step in this process requires collaborative reflection to evaluate the research findings.

The establishment of a new area of neuroeducational research, however, should not be viewed as a panacea for all the pressures facing education and the ethical dilemmas posed by scientific advances; it may even create additional ethical challenges. Neuroeducation researchers need to be fully subject to the safeguards guiding the medical professions and research on human subjects (particularly children), and also responsible for a review system that safeguards educational values (Sheridan, Zinchenko, and Gardner, 2006). Effective neuroeducational research, therefore, requires educators to play a central role along with researchers in formulating questions and methods (Fischer, et al, 2010).

One significant implication of this argument is the need to strengthen the quality of the research component in graduate programs of the field. There must be a group of scholars capable of practicing effectively in the field and advancing it. These professionals will need to achieve the ability to plan, design and carry out a research in the domain of neuroeducation and to widen the knowledge of theories regarding cognitive, affective, social and cultural foundations of education (Sylvan and Christodoulou, 2010).

Taken together, neuroeducational research is a complex and dynamic process in which many considerations and issues should be addressed. The above-presented body of principles may assist researchers in the identification and formulation of more relevant research questions. It also provides a useful framework based on which the quality of current research could be judged. Future attempts could be directed to clarify the link between methodology, methods and ethics of research in neuroeducation studies.

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REFERENCES

Ansari, D., Coch, D., & De_Smedt, B. (2011). Connecting Education and Cognitive Neuroscience: Where will the journey take us. *Educational Philosophy and Theory,* 43(1), 37-42.

Ansari, D., De_Smedt, B., & Grabner, R. H. (2012). Neuroeducation–a critical overview of an emerging field. *Neuroethics,* 5(2), 105-117.

Battro, A. M. (2010). The teaching brain. *Mind, Brain, and Education,* 4(1), 28-33.

Brandt, R. (2012). *How educational neuroscience will contribute to 21st century education. Creating an appropriate 21st century education. Information Age Education (pp*. Eugene, Oregon, USA.

Brown, R. D., & Bjorklund, D. F. (1998). The biologizing of cognition, development, and education: approach with cautious enthusiasm.Educational. *Psychology Review,* 10(3), 355-373.

Bruer, J. T. (1999). In search of... brain-based education. *Phi Delta Kappan,* 80(9), 648-657.

Bryman, A. (1988). *Quantity and quality in social research*. London: London: Allen & Unwin.

Campbell, S. R. (2010). Embodied minds and dancing brains: New opportunities for research in mathematics education. In *Theories of mathematics education* (pp. 309-331). Springer Berlin Heidelberg.

Campbell, S. R. (2011). Educational Neuroscience: Motivations, methodology, and implications.*Educational Philosophy and Theory,* 43(1), 7-16.

Dewey, J. (1929). *The sources of a science of education*. New York: Liveright Publishing Corp.

Eisner, E. (1994). *The educational imagination: On the design and evaluation of school Programs*. New York: Macmillan Publishing Company.

Ferrari, M. (2011). What Can Neuroscience Bring to Education. *Educational Philosophy and Theory,* 43(1), 31-36.

Fischer, K. W. (2009). Mind, Brain, and Education: Building a Scientific Groundwork for Learning and. *Teaching1. Mind, Brain, and Education,* 3(1), 3-16.

Fischer, K. W., Goswami, U., & Geake, J. (2010). The future of educational neuroscience. *Mind, Brain, and Education,* 4(2), 68-80.

Gardner, H. (2009). An education grounded in biology: Interdisciplinary and ethical considerations. *Mind, Brain, and Education,* 3(2), 68-73.

Geake, J. (2011). Position statement on motivations,

methodologies, and practical implications of educational neuroscience research: fMRI studies of the neural correlates of creative intelligence. *Educational philosophy and theory,* 43(1), 43-47.
Goswami, U. (2004). Neuroscience and education. *British Journal of Educational Psychology,*74(1), 1-14.
Hardiman, M., Rinne, L., Gregory, E., & Yarmolinskaya, J. (2012). Neuroethics, neuroeducation, and classroom teaching: Where the brain sciences meet pedagogy. *Neuroethics,* 5(2), 135-143. doi:10.1007/s12152-011-9116-6
Hardiman, M., Magsamen, S., McKhann, G., & Eilber, J. (2009). *Neuroeducation: Learning, arts, and the brain*. New York/Washington, DC: Dana.
Howard-Jones, P. A. (2011a). A multiperspective approach to neuroeducational research.*Educational Philosophy and Theory,* 43(1), 24-30.
Howard-Jones, P. (2010). *Introducing Neuroeducational Research*. Abingdon, Routledge.
Howard-Jones, P. A. (2011b). From brain scan to lesson plan. *Psychologist,* 24(2), 110-113.
Howard-Jones, P. A., Winfield, M., & Crimmins, G. (2008). Co-constructing an understanding of creativity in drama education that draws on neuropsychological concepts. *Educational Research,* 50(2), 187-201.
Howard-Jones, P. A., & Fenton, K. D. (2012). The need for interdisciplinary dialogue in developing ethical approaches to neuroeducational research. Neuroethics*,* 5(2), 119-134.
Kim, S. (2013). Neuroscientific model of motivational process. *Frontiers in Psychology,* 4(1), doi: 10.3389/fpsyg.2013.00098
Lalancette, H., & Campbell, S. R. (2012). Educational Neuroscience: Neuroethical Considerations. *International Journal of Environmental and Science Education,* 7(1), 37-52.
Meltzoff, A. N., Kuhl, P. K., Movellan, J., & Sejnowski, T. J. (2009). Foundations for a new science of learning. *Science,* 325(5938), 284-288.
Mertens, D. M. (2005). *Research and evaluation in education and psychology (2nd ed). Sage Publications: Thousand Oaks*. London, New Delhi: Sage Publications: Thousand Oaks.
Sciences, A.o. (National), (2005). *Facilitating interdisciplinary research. National Academies of Science, National Academy of Engineering, and Institute of Medicine of the National Academies. Washington DC: The National Academies*: Press.
Nixon, J., & Carr, W. (2003). *The moral foundations of*
Nouri, A., & Mehrmohammadi, M. (2012). Defining the Boundaries for Neuroeducation as a Field of Study. *Educational Research Journal,* 27(1).
Nouri, A. (2013). Practical Strategies for Enhancing Interdisciplinary Collaboration in Neuroeducational Studies. *International Journal of Cognitive Research in science, engineering and education (IJCRSEE),* 1(2), 94-100.
Organisation for Economic Co-operation and Development. (2002).*Understanding the brain: Towards a new learning science*: OECD Publishing.
Pincham, H. L., Matejko, A. A., Obersteiner, A., Killikelly, C., Abrahao, K. P., & Benavides-Varela, S. (2014). Forging a new path for educational neuroscience: an international young-researcher perspective on combining neuroscience and educational practices. *Trends in Neuroscience and Education,* 3(1), 28-31.
Popper, K. R. (1963). *Conjectures and refutations: The growth of scientific knowledge*. New York: Routledge and Kegan Paul.
Roskies, A. (2002). Neuroethics for the new millenium. *Neuron,* 35(1), 21-23.
Sanders, D. P. (1981). Educational inquiry as developmental research.Educational. *Researcher,*10(3), 8-13.
Schwartz, M., & Gerlach, J. (2011). The Birth of a Field and the Rebirth of the Laboratory School. *Educational Philosophy and Theory,* 43(1), 67-74.
Sikes, P., Nixon, J., & Carr, W. (2003). *The moral foundations of educational research: knowledge, inquiry and values.* McGraw-Hill Education (UK).
Sheridan, K., Zinchenko, E., Illes, G. H., & J, (2006). *Neuroethics in education, in Neuroethics: Defining the issues in theory, practice, and policy*. USA: Oxford University Press.
Stein, Z., & Fischer, K. W. (2011). Directions for mind, brain, and education: Methods, models, and morality. *Educational Philosophy and Theory,* 43(1), 56-66.
Sylvan, L. J., & Christodoulou, J. A. (2010). Understanding the role of neuroscience in brain based products: A guide for educators and consumers. Mind. *Brain, and Education,* 4(1), 1-7.
Tallal, P., Miller, S. L., Bedi, G., Byma, G., Wang, X., Nagarajan, S. S., ... & Merzenich, M. M. (1996). Language comprehension in language-learning impaired children improved with acoustically modified speech. *Science*, 271(5245), 81-84.
Wilson, A. J., Dehaene, S., Pinel, P., Revkin, S. K., Cohen, L., & Cohen, D. (2006). Principles underlying the design of "The Number Race", an adaptive computer game for remediation of dyscalculia. *Behavioral and Brain Functions,* 2(19), 1-14.
Worden, J. M., Hinton, C., & Fischer, K. W. (2011). What Does the Brain Have to Do with Learning. What Does the Brain Have to Do with Learning?. *Phi Delta Kappan,* 92(8), 8-13.
Yang, O. S. (2001). An epistemological and ethical categorization of perspectives on early childhood curriculum. *International Journal of Early Childhood,* 33(1), 1-8.
Zambo, D. (2013). The Practical and Ethical Concerns of Using Neuroscience to Teach Young Children and Help Them Self-Regulate. In *Early Childhood and Neuroscience-Links to Development and Learning* (pp. 7-21). Springer Netherlands.
Zocchi, M., & Pollack, C. (2013). Educational neuroethics: A contribution from empirical research. *Mind, Brain, and Education,* 7(1), 56-62.

CONCEPTUAL CHALLENGES IN UNDERSTANDING INNOVATIVE EDUCATION IN ORGANIZATIONAL CONTEXT

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ABSTRACT
The paper suggests shifts in educational thinking about adult and continuing education practices including: goal setting, nature of the learner, character of education, and its elements including the sources in the educational process, evaluation of its outcomes, and social (micro-social) role of education. The author explores innovative vs. conventional adult learning, and introduces several new approaches to adult education. Several conceptual challenges (paradoxes) are considered that do not fit the traditional educationalist's thinking. The conceptual shifts are explored as cognitive gaps, leading to insights about the nature of adult education, and pragmatic changes in shaping education to transform individual and collective experience.

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1. INTRODUCTION

We look at learning as act or process of acquiring new, or modifying the existing experience, including knowledge, skills, values, and/or preferences. Education is seen as a process aimed at supporting/facilitating learning. Features of adult and continuing education are defined by the nature of adults as learners. An essential part of adult learning is based on personal experiences which have innovative/transformative nature.

Adult Learning as Transformation of Experience. Adult learning as a means of restructuring experience implies transformations, or shifts in individual and/or collective meanings. Transformation of experience and meanings correlate with situations of change and/or crisis in individual or collective learners' lives, or activity modes. Therefore, genuine learning and effective education is closely related to life crisis situations and/or crises in the workplace. Typical examples of the latter include: role adaptation crisis, job routine crisis, long tenure crisis. M. V. Klarin (Кларин, М. В., 2016) adds crises of professional dynamics including: role change, job function redesign, crises of work team development stages., situation of an organization going through M & A, strategy change, downsizing, etc.

Adult education process is based on development of new experience, and its further transformation. Of course, in educational practice experience is always being shaped. However, in the conventional learning prevailing focus is on shaping experience from zero. In innovative adult education, the focus is restructuring experience. Pragmatically speaking, the transformational nature of education calls for the use of reflective educational practices (reflective, interactive learning, action learning, coaching).

From the learning perspective the crisis situation of organizational restructuring involves teams, departments, or whole companies, i.e. collective entities acting as learners whose experience undergoes drastic restructuring. Relevant experience change, however, is not considered subject of deliberate arrangement of learning new experience, i.e. education.

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2. INNOVATIVE PRACTICES IN ADULT EDUCATION

In a meta-study of adult and continuing education (Кларин, М. В., 2014) we have outlined a number changes in innovative vs conventional education practices: a) goal setting, b) character of the learner, c) nature of education, d) the sources of learning in the educational process, e) evaluation, f) social (micro-social) nature of learning.

a) Conceptual shift in goal-setting implies a shift from "academic" design of outcomes (e.g. mastering KSA's − knowledge, skill, and abilities) to outcomes in the job contexts, including management outcomes.

b) Conceptual shift in understanding of the learner implies a shift from an image a person with of zero relevant experience to an experience-loaded adult whose prior experience matters, as may heavily influence a newly acquired experience. Another shift is taking into account not only individual, but also collective learners.

c) Conceptual shift in understanding the nature of education: implies a shift from gaining knowledge to transforming experience and/or environment.

d) Conceptual shift in the sources of new experience in the educational process includes shifts from information sources to real life/work experience (the 70/20/10 rule).

e) Conceptual shift in evaluation includes departure from evaluating knowledge and skills to evaluating behavior/competency changes, real job behaviors, of business performance, and return on investment.

f) Conceptual shift in understanding the nature of learning includes departing from maintenance learning to innovative learning (Botkin, J. W., Elmandjra, M. and Malitza, M., 2014). We can interpret this as shifting the focus from transfer of culture to creating new cultural experience.

Conceptual shifts in understanding of both individual and collective experience are supported and/or provoked by *innovative education* practices.

What is new experience? When the components of culture, or social experience is transferred, we deal with known experience. Its possible novelty for the learners may be introduced in artificial, "pedagogical" purposes. However, "the teacher knows the right answer". Acquiring new experiences in the process of learning when no right answer is known is adding accumulated, reflected and structured experience to the collective experience, i.e. the culture. The traditional concept of education implies transfer of the 'whole body of culture' to the learners (Kraevskij, V. V. and Lerner, I. Y., 1984). Nowadays, in many situations where learning is involved, there are no patterns of experience ready to be presented, explained, or taught. The idea of taking long time to adapt pieces of experience for educational transfer often becomes obsolete (Кларин, М. В., 2014).

Innovative Learning and Innovative Education. In innovative education we deal with a very special nature of the educational process, i.e. new experience is obtained mastering in the process of its generation. Innovative, transformative learning intentionally builds new professional experience in the process of experience transformation. In situations of organizational change, a special type of learning for a collective entity is taking place, i.e. transformative education.

Collective Learning and Collective Learner. Modern educational practices call for special attention to the concept of collective learner. So far, research and studies of non-individual learning were focused on co-operative, or collaborative learning, in which two or more individuals learn together. Some authors look at cooperative learning as a mild form of unity, in which individuals take responsibility for a separate pieces or perspectives of learning, and then bring their respective parts together, whereas collaborative learning implies a stronger mutual engagement of all participants in a group effort, and a coordinated effort to solve the problem. P. Dillenbourg (Dillenbourg, P., 1999) argued that collaborative learning is characterized by symmetry, shared goals and working. We define collective learner as a collective actor in a shared learning process in which joint learning outcome is actively produced (rather than passively received).

Organizational Learning as Collective Learning. What learning outcome is obtained in organizational learning from the organizational standpoint? Companies do not always think in terms of education or put people development in the focus of their attention. For an organization learning is a means to keep up its 'dynamic capabilities', i.e. abilities which allow the company master and routinize actions aimed at the development and adaptation of operational routines, which ensure the effectiveness of the organization.

M. Zollo and S. G. Winter defined a dynamic capability as a learned structured pattern of collective activity by which the organi-

zation systematically generates and modifies its operating routines in pursuit of improved effectiveness. Dynamic capabilities allow the organization to flexibly manage, change and transform its operational routines in a changing environment. An important aspect of routines is the tacit knowledge. As different from competencies, knowledge, or skills, it can hardly be clearly shaped and/or formulated. M. Zollo, and S. G. Winter argued that general organizational learning mechanisms for gaining dynamic capabilities (organizational learning) include: experience accumulation, knowledge articulation, and knowledge codification. As they describe the dynamic capability-building process: "Dynamic capabilities emerge from the coevolution of tacit experience accumulation processes with explicit knowledge articulation and codification activities" (Zollo, M. and Winter, S. G., 2002). The research on dynamic capability-building process also gives insight into what can be done to deliberately 'educate', or rather develop the organization as a collective learner. When designing the organizational learning the focus is primarily on eliciting the tacit knowledge.

Successful organizational learning includes creating new experience, and a retrospective reflection of the generation process. Typical formats include specially arranged facilitation sessions. General approach to collective learning is based on the Kolb's cycle. In present author's consulting experience retrospective analysis works as a "sublimation" or "second order" of Kolb's cycle.

Cycle Models of Collective Learning. P. M. Senge suggested understanding of organizational learning that implies a collective ability to systematically achieve the results desired by the members of the group (Senge, P. M., 1990). Cycle type of models are used to describe and design organizational learning. E.g., D. Garvin (Garvin, D. A., 2003) breaks organizational learning in stages: a) gathering information, 2) information processing, 3) application. Organizations often use Deming's model: PDCA model (Plan – Do – Check– Act). Organizational learning programs are often planned so that a team rather than an individual employee becomes the learner. J. Pfeffer and R. I. Sutton (Pfeffer, J. and Sutton, R. I., 2000) argued that in corporate development programs priorities are shifted from individual to collective/institutional results; they note that it is the use of knowledge in the practical activity that defines the difference between successful and unsuccessful learning of an organization (as a collective learner).

Tacit Knowledge. Experience to be transferred often includes 'implicit' or 'tacit' knowledge, the part of human experience which can hardly be clearly articulated and reflected on. The concept of tacit (personal, or silent) knowledge was coined by M. Polanyi (Polanyi, M., 1967). A well-known example of tacit knowledge is riding a bicycle: a person who can do it is unable to pass on their knowledge. A talented teacher may not be able to describe the way in which he comes to their impromptu decisions, transforming the course of training. Similarly, in professional performance full description and transfer of the whole set of actions is not always possible.

In recent years, the interest of experts is drawn to tacit knowledge, which is often undetected basis for high efficiency, and/or (in the case of commercial companies) the basis for sustainable competitive advantage in the marketplace. Management experts willingly quote the former Hewlett Packard CEO Lew Platt: «If only HP knew what HP know, we would be three times more productive".

3. A CASE FOR ADULT EDUCATION IN CORPORATE CONTEXT

In the corporate context education is seen as a process, and a special effort to arrange learning in corporate environment to achieve learning outcomes relevant both for individuals, and the organization.

Phases of Transformative Education. M. V. Klarin (Кларин, М. В., 2015) suggested four general phases of transformative education in an organization: Adopt – Adapt – Transform – Transfer.

Adopting Collective Experience. The desired learning/educational outcome is adopted work experience. The challenge for the Organization is to master the new experience by teams of employees (including managers) in order to improve performance of teams, individuals, and/ or organization as a whole. The challenge for collective learners is to master the new professional experience presented in an 'expert', normative way. The challenge for a facilitator is to present professional experience to be adopted by participants who are learning by mastering presented models.

Adapting collective experience. The desired learning/educational outcome is adapted work experience (i.e. modified experience, with its structure unchanged). The challenge for the Organization is: to adapt the experience

of professional activity based on the proposals by employees to improve the work of a department or the Organization as a whole. The challenge for the collective learner is to learn and adapt presented normative/model experience of professional activity to the conditions of their own activities. The challenge for the facilitator is to lead the process of adapting the new experience.

Transforming Collective Experience. The desired learning/educational outcome is transformed, i.e. restructured work experience. The challenge for the organization: to create new work experience (usually due to the experience of external experts, consultants), build and transfer new professional experience (including management) across the organization, transforming the work of a department or the organization as a whole. The challenge for the collective learner is: generate new professional experience. The challenge for the facilitator is to lead the transformation process, transforming the experience of the participants. Participants develop professional norms/standards in the context of their activities and plan how to realize their standards.

Transferring Collective Experience. The desired learning/educational outcome is ability and implementation of transferring work experience. The challenge for the organization is: to transfer/transmit new experience to reshape the work of a department or the organization as a whole. The challenge for the collective learner is: to create procedure of transferring new professional experience, transfer it, involving next groups of employees in the process of adopting, adapting, enriching, and transmitting new experience in a department or the whole organization. The challenge for collective learner is: to transfer new professional activities to other staff, performing a training role. The challenge for the facilitator is to support the process of transferring the new experience.

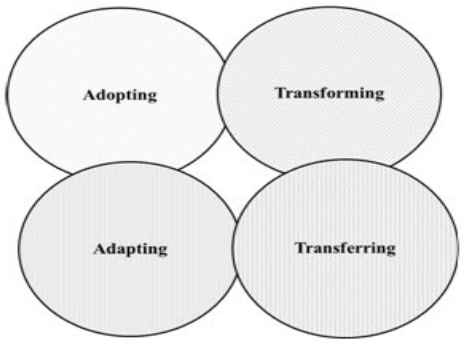

Figure 1. Phases of Transformative Education

4. PARADOXES OF ADULT EDUCATION

In adult education practice we may find paradoxes that do not fit the traditional educationalist's thinking. I treat paradoxes as cognitive conflicts, cues alerting our thinking in its proper sense, as a thorough exploration of the subject of the paradox.

Thus for exploratory pedagogical thinking paradoxes emerge as conceptual challenges indicating gaps between the phenomena of educational reality and familiar ways to describe this reality. Changes in understanding will be followed by relevant practical/pragmatic changes of educational practices.

The Paradox of Non-Academic Nature of Learning. In corporate learning practice, education becomes an integral part of human resource development. As a result, there is a contradiction between the "academic" nature of goal-setting (e.g., in terms of knowledge, skills and abilities) and managerial nature of the expected learning outcomes (changes of competencies, work activities, job performance, new performance outcomes of teams, departments, or the organization as a whole).

This paradox challenges the traditional pedagogical thinking. A response to this challenge we see in conceptual transformation of pedagogical thinking, and a pragmatic shift of educational goal setting to a coherent process of generating, recording, and developing of new cultural experiences. This paradox leads to paradoxes of non-academic learning goals and non-academic evaluation of learning outcomes.

These paradoxes challenge the conventional ideas of the learners' role in the process of education. I see the response to these challenges in conceptual change of educational mentality, and relevant pragmatic changes: (1) in conscious planning of non-academic transformative interactions in learning; (2) in a special design including internal, personal gaps in upfront design of the learning/educating process.

A Conceptual Challenge / Paradox of Non-Expert Facilitator Role. In corporate learning there is often a situation where the 'educator' (trainer, consultant) has the role of facilitator, guiding the learner generation of subjectively and objectively new experience. Here arises the paradox of expertise: the facilitator has no advantages over learners as related to the subject knowledge, his task is to arrange and facilitate a productive discussion leading to generation of new experiences.

5. IMPLICATIONS OF THE CONCEPTUAL CHALLENGES

These *conceptual challenges* contradict the conventional ideal of education that transfers the content, and the role of educator/trainer as a subject area guide. The response to this challenge is revising beliefs about the nature and essence of the educator's role, and pragmatic shifts in the use of their expertise in education. Their expertise is expected to be primarily focused on facilitating the process of learning, and moderately focused on the content.

To build innovative learning practices, we need to make more extensive use of conceptual and practical tools of educational process design with focus on developing and transforming individual and collective experience.

Conflict of interests

The author declares no conflict of interest.

REFERENCES

Botkin, J. W., Elmandjra, M., & Malitza, M. (2014). *No Limits to Learning: Bridging the Human Gap: The Report to the Club of Rome*. Elsevier.

Dillenbourg, P. (1999). What do you mean by collaborative learning.*Collaborative-learning: Cognitive and computational approaches*, *1*, 1-15.

Garvin, D. A. (2003). *Learning in action: A guide to putting the learning organization to work*. Harvard Business Review Press.

Кларин, М. В. (2016, in press). *Инновационные модели обучения: исследование мирового опыта.* Монография. Москва, Луч. (in Russian).

Кларин, М. В. (2015). Инновационное обучение в образовании взрослых. Проблемы современного образования. *Интернет-журнал,* 4, 5-27. (in Russian).

Кларин, М. В. (2014). Инновационное образование: дидактический анализ. *Педагогика*. 6, 32–39. (in Russian).

Knowles, M. S. (1984). *Andragogy in action* (pp. 1-21). San Francisco: Jossey-Bass.

Kraevskij, V. V., & Lerner, I. Y. (1984). *The Theory of Curriculum Content in the USSR*. United Nations Educational, Scientific and Cultural Organization, 7, place de Fontenoy, 75700 Paris, France.

Pfeffer, J., & Sutton, R. I. (2000). The knowing-doing gap: how smart companies turn knowledge into action. *Organizational Dynamics*, *1*(29), 76-77.

Polanyi, M. (1967). *The tacit dimension.* London: Routledge.

Senge, P. M. (1990). *The Fifth Discipline* (re-print 1992). London, Century Business.

Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization science*, *13*(3), 339-351.

PROFESSIONAL FORMATION OF THE TEACHER AS A SOURCE OF PROFESSIONAL CAREER DEVELOPMENT

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ABSTRACT

The article deals with the problem of professional formation of the teacher as a source of professional career development. The authors reveal the role of professional teacher's conduct in the process of cognition students' cultural values of their ethnic group, the moral values of human conduct in the ethnocultural environment of the region. The authors also provide the basis for the process of professional formation of the future teacher as a source of professional career development in the self-development of cultural and educational space of the university in the region.

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1. INTRODUCTION

Innovative changes happening at the beginning of the XXI century brought radical changes in the traditional system of education in the era of information and globalization. That contributed to the diversification of educational systems and the emergence of multiple educational routes in the content of education development strategy. In this regard, there is a rethinking of the individual teacher role in the area of upbringing and education. In the new system, the question of the professional teacher training and the content of teacher education is put on the new. The personality of the teacher, his professional competence, social maturity and spiritual wealth contribute to improving the quality and effectiveness of the training process in high school.

However, in terms of modernization in education sphere, there are some contradictions between the fundamental features of teacher education system in forming the developing personality and relatively inefficient use of the process of designing the content of teacher education at the present stage of reconstruction of the whole society in the educational space. It is also necessary to study the potential of developing educational space Regional University in the professional development of the teacher in a multicultural environment and at the same time, there is a lack of scientific basis for the implementation this idea in making a socio-qualification career.

Today, teacher education in the educational space of the university is a system-forming factor of a new educational model and it allows us to consider the formation of professional and personal competence of the teacher in the context of ethnic and cultural characteristics of the region.

Educational space of the university in the region is an objective reality of the territorial

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educational system, which is a set of material, political, ideological and socio-psychological factors, interacting directly with the personality of the teacher in the course of vocational training in high school.

The technique of writing this article was to review the process of professional formation of the future teacher in the socio-cultural environment of the region, assimilating ethnic and cultural traditions, way of life and mentality of the people, the future of students and their parents in the educational space of the university as a source of social development and qualification of the teacher's career. During the transition to the regional economy to an innovative model of development of basic industries, ensuring its growth, are science and education. The teacher of high level, being professionally successful, ensures the unity of science, culture and education. This unity is the main resource for the development of quality of life in the region. The lack of qualified, professionally trained teachers, motivated for individual personal advancement in the territorial educational system considerably hampers innovation processes in the economy and in the socio-cultural sphere, indicating a need for the development of pedagogical forecasting skills.

Researcher Sherayzina R. M. notes that pedagogical forecasting is a scientific activity, based on a specially arranged complex of research aimed at identifying possible changes, trends, and prospects of development of the subjects and objects of pedagogical activity, which allows obtaining reliable advance information about their development in innovation activity.

Innovative activity is focused on creating the conditions and set up for success in any field of their possible applications. Innovative trends in vocational training motivate changes in the educational process in a high educational institution in the following areas: a change of goal-setting; formation of a new educational content, which is close to the rapidly changing life and which contributes to the preservation of the fundamentals; development and implementation of new educational programs on the basis of competence approach, taking into account the diversity of cultures, readiness for intercultural interaction in the conditions of development of modern civilization.

Modernization of education, according to R. M. Sherayzina, dictates the need for a transition from the traditional professional paradigm to the innovative one (Musin-Maznov G. H., 2016).

Table 1. Changing of traditional professional paradigm to the innovative paradigm in the modernization of education

№	Criteria	Traditional paradigm	Innovative paradigm
1.	Position	Stability, rationality	Change, solution
2.	Technologies	Mechanical	electronic
3.	Career goals	Safety, reliability, security	Personal growth, excellence
4.	Leadership	Autocratical	Transformative
5.	Completing quests	Individual	Team
6.	Resources	Capital	Information

Competence approach to the formation of ethnic identity, in our opinion, will help the teacher, not only to adequately act in the current intercultural environment but also to be prepared to change it, be prepared for self-restructuring their own educational activities, if required by changed conditions of life.

Gargay, V. B. highlights the fact that at the present stage, the teacher training is becoming more meaningful process running inside the learner, and departs from the understanding of the training as a set of some usual actions of teachers, suitable for any pedagogical situation (Gargay, V. B., 2005).

Researcher D. Tripp suggested using the technique of "Path of Life" in the development of the professional identity of the teacher as a form of gestalt, which is in the picture of the timeline, where future teachers celebrate important events and people who have an impact on their professional development. Students' awareness of their gestalt in assessing the positive and negative school teacher behaviors creates an image of the ideal teacher. This is what they would like to be themselves; it promotes the formation of students' professional identity in their pedagogical activity (Tripp D., 1994). From the point of view of the researcher F. Korthagen, calling in teacher's behavior model is based on the foundation qualities of the translation technique of their personality in a particular behavior in a given situation (Korthagen, F. A., 2004). The educational activity, as a special kind of social reality in the educational space of the university, is aimed at the development of educational content, the development of subject-subject interaction of the teacher with the students in a specially organized process of learning. It is done in order to create conditions for the development of professional identity of teachers and training them to perform certain social roles various ethnic communities. Today, young teachers

are in dire need for social guidelines, based on national values of universal orientation in their professional education. Ethno-cultural traditions arose teachers' genetic memory, actualize continuity in the pedagogical environment, and greatly increase the essence of the "Ego" in their professional formation. Researcher R. Bullough notes that teacher's education begins with an understanding of the essence of the "Ego". This self-concept of a future teacher is the foundation without which all further practical and theoretical structures are meaningless (Bullough, R. V.,1997). The construction of educational process on ethnic cultural traditions gives it a humanistic nature; it promotes the formation of value orientations, moral and spiritual stability, and civil-patriotic position of ethnic identity.

2. MAIN PART

The personality of a teacher, his professional competence, social maturity and spiritual wealth are now the most important factors in the development of ethnic self-awareness among the younger generation.

The need for this is particularly increasing in the period of Russia's entry into the twenty-first century, which has set the task of building a new school, and "growing up" the generation of teachers capable of creation, creativity, the author's approach in solving professional problems. With the rise of anti-social negative phenomena in the youth environment and rethinking the value orientations in the context of global changes in society, the requirements for the professional competence of teachers are becoming stronger. It deals with the content and technology of teacher education: knowledge, skills, methods of pedagogical activity, their willingness to address unusual situations, and challenges in the changing world.

In this connection, the existing education system must have adequate resources to assist students in building a successful social-qualifying career in accordance with their national and gender peculiarities. Professional self-determination in building the personality of the teacher in their career is due to the change in the nature and content of the professional activity and its behavior. It shows that during the period of the country's transition to the market economy conditions the formation of a future teacher's competence, the career development is one of the urgent problems of the competitiveness of human resources in the process of professional development. Improving teachers' competitiveness in the labor market provides a comprehensive development of the economy and national security of the state. According to M. V. Aleksandrova, teacher's career is a "conscious attitude to their own motion in the steps of professional development that characterizes the levels of achievement in various activities (professional, managerial, social, etc.). And it involves the increase of the status in the social and educational environment" (Aleksandrova, M. V., 2007).

The difficulty of professional self-determination and the construction of the future teacher professional career in the contemporary Russian society is confirmed by numerous studies. In the pedagogical science is no longer identified the concept of "professional self-determination" and "career choice". The professional self-determination is now being studied as a holistic personal formation of a professional career. These changes are not baseless. Indeed, the continuous nature of professional self-determination is not only dictated by the needs of a constantly evolving personality, but also the modern social conditions, when a young person is forced to change the scope of its activities and is also associated with changes in the nature and content of the most professional work. The transition of the country to the market economic conditions puts the competitiveness of human resources on one of the most important places. In these circumstances, a person is an active subject in the labor market, having the ability to freely dispose of their primary capital – qualifications. In conjunction with the freedom to choose the person sphere of professional activity, it gives them the opportunity to build a successful professional career.

However, the results of studies carried out by M. V. Aleksandrova showed that out of 1,000 respondents who were educational workers, only 17% of teachers consider their career as promotion through the ranks, and 40% - as the professional growth without linking this process with the official hierarchy. At the same time, 57% of teachers indicate a connection of their career with a good salary, recognition of students, and achievement of high social status. For 25% of respondents, a career is a personal self-realization, self-assertion, the satisfaction of their own ambitions. However, more than half of the teachers surveyed (58%) do not plan their own career, 23% of teachers are quite satisfied with their own career development, 79% of them are considering a career just as the promotion of the career

ladder, almost 37% of the educational workers explain their refusal to work in their specialty in education system with the inability of successful career.

These findings suggest that teachers have some intuitive idea of a career, and for students the lack of information about career opportunities in the education system is one of the reasons for their employment not in the pedagogical fields (Aleksandrova, M. V., 2007).

Particular importance in today's multicultural society is the individual's ability to design their social-qualifying career. As researchers S. A. Trashchenkova, M. V. Aleksandrova and R. M. Sherayzina note this type of career may be considered "as a universal form of movement and human development, a focused continuous process and integrative quality of social systems".

Within the context of our study, it is important to determine the nature of social and qualifying teacher's career, which the authors defined as "a complex characteristic of their successful professional and social development of a chain of individual achievements of the teacher having an impact on the formation of the person of a particular teacher, contributing to the formation of their artistic personality, enhance social and qualifying status in the region. The levels of formation a social-qualifying career are: qualifying (pedagogical skills, the recognition by educational communities, authority in a particular form of educational activity), qualifying and social (leadership in the interdisciplinary field, authority in professional pedagogical community), social and qualifying (leadership in public social field, in the territorial authority of the community)" (Aleksandrova M.V., Trashchenkova S.A., Sherayzina R. M., 2014).

The effectiveness of the process of becoming a social-qualifying teacher's career is determined by the level of its social and educational activity, which is defined as the quality of the person. It appears in the activity-vigorous open nature of the teacher, as well as in the ability to arouse active social and educational activities of other members. It is also characterized by the level of their professional identity, demonstration of subjectivity in social introspection of their professional achievements and social status.

However, in the old days, the crafts were the sign of the welfare of the country and its general level of culture. The mastery of arts and crafts was a socially necessary activity which was gradually developing into a human profession. Professional experience in the work of folk masters was formed by the opening of the most effective methods and techniques of processing the material, bringing design skills to perfection. This experience was accumulated for centuries, handed down from generation to generation. Folk traditions and customs were the regulators of master's behavior who was a professional in their craft. This helped in the formation of value orientations of the individual, in the choice of examples, in the planning prospects in life. To a certain extent, it was the personality of the master influenced on the future generation that will be brought up, and what that generation would bring to the mankind in the future.

The behavior of the master of folk handicrafts is an important part of national culture, and this behavior causes the mechanism of ethnic identification. Features of peoples' mentality create a system of unique behavioral forms. Ethnic "I – concept" consists of several blocks: ethnical-psychological, anthropological, and social-genetic. The ethnic "I – image" is kept in the minds of people, in cultural monuments, religious traditions, moral norms, rituals, etc. In their studies, V. Yu. Khotinets and A. I. Troyanskaya noted that the ethnic identity is closely integrated into the structure of the professional reflection of the person in the final stage of professionalization.

In this connection, from 2008 to 2014 in the Republic of Kalmykia of the Russian Federation, there was carried out the experimental work on the study of the integration features of teachers' professional development with innovative social and educational processes in the self-development of cultural and educational space of the university in the region. The experimental work was attended by 140 students by specialty "Pedagogical Education" (Bachelor - Master), "Biology" (Bachelor) of Kalmyk State University and 70 students from the school of Khar Buluk Village of Tselinniy District of Kalmyk Republic under the leadership of the school principal, Honorable worker of the general education of the Russian Federation T. V. Lidzhieva.

Khar Buluk village with its suburbs is one of the historical places of Kalmykia with healing springs, Buddhist monuments of culture, and folk traditions. The process of familiarizing students to the knowledge of the values of the national culture in the content of the work was carried out on the basis of ecological and ethnographic club "Hope" for students of 4-11 grades of school settlement Khar Buluk, Tselinniy district of the Republic

of Kalmykia. This club is headed and directed by an Honored Teacher of the Russian Federation Lidzhieva I. G.

Academic and extracurricular activities at the club were organized in four directions: "Nature and Culture", "The history of the native land", "Environmental ambulances", "Pedagogical culture of the teacher". The work of students' scientific society was carried out with the active involvement of the teachers of the department of the Russian language and literature ("Stylistics", "Seeker" section); mathematics and physics (section "Theoretical Physics", "Computer Science"); Social Sciences (section "Regional studies", "Culture of the peoples of the Volga region"); natural geographical sciences (section "Inorganic Chemistry", "Biology", "Physical geography"); Pedagogy and Psychology (section "Social Psychology", "Health Psychology"); Foreign languages (section "English") of Kalmyk State University.

Students of ecological-ethnographic club "Hope" and the teachers investigated water sources of the village, natural and artificial ecosystem, held monitoring of ecological state of the village, collected ethnographic material about folk healers of the region They also studied the history of his native school and the teachers' contribution to the development of the education system of Kalmykia, culture and ethnography of the Kalmyk people, folk traditions of a healthy lifestyle, forming valeologist culture. They started to secure the historic monument of national importance "A lonely popular in the steppe with a cascade of healing springs". Every year, the students of the school of Khar Buluk village of the Kalmyk Republic are taking part in competitions, environmental gatherings, and in all-Russian contests "My Little Motherland", "Fatherland", "The Man in history", "Russia - XX Century". Young people also joined in educational and research ecological projects "The Man on the Earth", "The problems of natural ecosystems", the Republican tourist and local history competitions "The Memorials of Russia", scientific and practical conferences (Kekeeva, Z. O., 2009). The professional behavior of a teacher contributed to the knowledge of the students' cultural values of their ethnic group, the moral values of human conduct in the ethnical-cultural environment. The teacher was their guide in the world of moral values of human behavior. According to J. Tomlinson, moral values are human code of conduct, which are based on the following ethical principles:

- rationality, independence of action and judgment, respect for professional knowledge, skills and experience;
- interests of students, maintenance of equality of educational opportunities;
- recognition of the teacher's right to an error, the development of partnership and the training of students in the educational process (Tomlinson, J., 2000). The analysis of the experimental work showed that future teachers (52%) have become to feel more comfortable, more confident and more positively assess their capabilities. There is the increase of cognitive activity and creative independence, responsibility, the change of their attitude to the profession (Kekeeva, Z. O., 2009).

The organization of pedagogical activity of a future teacher in the educational space of the university contributed to familiarizing students to the knowledge of the values of culture and education in the region, and turning a pupil into the subject of the development of a competent personally important values of life in the area of culture and education in the region. The essence of pedagogical professionalism of the teacher lies in taking responsibility for the implementation of the action, based on theoretical knowledge, training, experience, and intuition.

The function of the pedagogical activity of a future teacher in the educational space of the university consisted in the formation of students' active position of the subject in the assimilation of culture and education in an ethnic and cultural environment of the region in designing a professional career.

3. CONCLUSION

Teachers' professional development is a source of social-qualifying career. In solving available problems a primary role plays ethnic and cultural identity in the formation of the professional experience of the teacher in pedagogical activity. The development of the valuable attitude of a future teacher to pedagogical activity was carried out through the knowledge of the values of culture and education in the region, development of active teaching positions in the preservation and development of spiritual culture, the development of interethnic dialogue and stability in the region.

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REFERENCES

Aleksandrova, M. V. (2007). Support of the teachers in their careers of territorial educational system [Monograph]. *Novgorod State University after Yaroslave the Wise. - Velikiy Novgorod*.

Bullough, R. V. (1997). Practicing theory and theorizing practice in teacher education. *Teaching about teaching: Purpose, passion and pedagogy in teacher education*, 13-31.

Aleksandrova, M.V., Trashchenkova, S.A., & Sherayzina, R.M. (2014). Formation of socioal and qualifying teacher's career. *Velikiy Novgorod*.

Gargay, V. B. (2005). The professional development of teachers in the West: a behavioral approach. *Pedagogy No.6*, 94 – 103.

Kekeeva, Z. O. (2009). Training teachers in cultural and educational space of the University: theory, methodology, practice [Monograph]. *Volgograd: Publishing house of the Volgograd State Pedagogical University "Change"*.

Musina-Maznova, G. H. (2016). Formation of career orientations of future social employees in the process of two levels [Monograph]. *M.: KNORUS; Astrakhan: ASU, publishing house "Astrakhan University"*.

Khotinets, V. Y., & Troyanskaya, A. I. (2011). Ethnic and cultural peculiarities of professional reflection. *Psikhologicheskii Zhurnal*, *32*(3), 57-73.

Korthagen, F. A. (2004). In search of the essence of a good teacher: Towards a more holistic approach in teacher education. *Teaching and teacher education*, *20*(1), 77-97.

Tomlinson, J. (2000). Ethical Principles for the teaching profession. *Report of UCET Working Party Occasional paper № 7.* London.

Tripp, D. (1994). Teachers 'lives, critical incidents, and professional practice. *Qualitative Studies in education*, *7*(1), 65-76.

COGNITION AND SUICIDE: EFFECTIVENESS OF COGNITIVE BEHAVIOUR THERAPY

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effectiveness.

ABSTRACT

The aim of this review paper is to show an overview of the empirical evidence of effectiveness of cognitive behavioral therapy (CBT) in reducing suicidal cognitions and suicidal behavior. The topic of suicidal cognition and suicidal behavior is of special importance to clinicians and practitioners. Analyses of empirical findings from the oldest, first systematic review and meta-analysis and the newest one shown that there not enough evidence from clinical trials to suggest that CBT focusing on mental illness reduces suicidal cognitions and behaviors. But, from the other hand, CBT focusing on suicidal cognitions and suicidal behaviors was found to be effective. Taking into consideration the effectiveness of this psychotherapy, we can conclude that it is preferable for clinicians to be trained in working with CBT techniques focused on suicidal cognition and behavior that are independent of treatment of mental disorders. In addition, it is necessary to initiate new research that will make it possible to create preventive and interventional programs dedicated to reducing the risk of suicide.

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1. INTRODUCTION

According to WHO`s report (2014), suicide is the 15th leading cause of death worldwide, accounting for 1.4% of all deaths, and the second leading cause of death among 15-29 year olds globally. Mental disorders is one of the strongest risk factors for suicide, having been implicated in 91% of completed suicides (Cavanagh, Carson, Sharpe and Lawrie, 2003). According to Chesney, Goodwin, and Fazel (2014) the risk of suicide is highest among those with borderline personality disorders, followed by depression, bipolar disorder, opioid use and schizophrenia.

According to Mewton and Andrews (2016) CBT is an umbrella term for various treatments that focus on challenging cognitive biases (through cognitive restructuring) and behaviors (through graded exposure and relaxation training).

In the last 30 years, there has been a significant development in cognitive-behavioral models of researching cognitive aspects of suicidality and its treatments. Ellis (1986) is among the first who tried to summarized research on cognitive characteristics of suicidal individuals and who recommended that additional efforts need to be made in developing strategies specifically designed to reduce cognitive vulnerability to suicidal ideation and behavior.

There a few studies with antidepressant trials which shown that reduction of suicidal risk and suicidal behavior with antipsychotic therapy is debatable (Cipriani, Hawton, Stockton, Geddes, 2013). Whether psychotherapy is effective in reducing suicidal risk and suicidal behavior is of special importance for us as clinicians and practitioners.

Tarrier, Taylor and Gooding (2008) claim that psychotherapies, including cognitive behavior (CBT) and dialectical behavior therapy (DBT), have not been shown to im-

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prove suicidal outcomes when mental illness is the main treatment focus. But, on the other hand, based on empirical evidence, both CBT and DBT have been shown to be effective in reducing suicidal risk when these treatments focus on suicidal cognitions and behaviors (Comtois and Linehan, 2006; Tarrier, Taylor and Gooding, 2008). With other words, we can expect better patients outcomes when psychotherapy focuses on suicidal cognitions and suicidal behaviors as dysfunctional personal factors rather than symptoms of mental illness (Linehan, 2008).

When it comes to the CBT approach to suicidal thinking and behavior in depression, it should be noted that first the therapist must determine which problem the suicidal person would solve and then what is the motive of the individual for choosing suicide. In addition, the answer of whether suicide is preferred to a desire to run away from the pain or whether changes need to be made in relations or surroundings of the individual, or both.

When the therapist believes they can understand the client's logic, the therapist could inform them that they could have come to the same conclusions under similar circumstances. The function of this answer would be to help in normalizing the client's experience. Then the therapist must offer the client hope by emphasizing that there are solutions or partial solutions that the client could look into, and then the alternatives to suicide will appear. In order to be involved, it is important that the client believes that the therapist understands their logic and perspective without judgment.

When this transfer is successfully established, the client's task would be to understand the inner, outer and/or thematic triggers of suicidal cognition and behavior, as well as the factors that help in perseverance of suicidal risk (Matthews, 2013).

The therapist's next step in order to help the client would be causing distortions and misconceptions, including core beliefs, that would hinder motivation and make it inefficient in solving problems. Previously, the therapist had done an analysis "for and against" suicide and on the positive and negative reinforces for suicide with the client. The negative reinforces will motivate the client in thinking about reasons to live and not choose suicide, while positive reinforces will help the client determine the alternatives to suicide. In addition, identifying alternatives to suicide also helps begin the task of solving the problem.

It is recommended to argue the "for and against" of every alternative. Then, after the best alternative has been found, the client develops an action plan, which motivates them to follow the results by assessment of the outcomes. The active problem solving by the client would be in function of developing self-efficacy and reducing feelings of helplessness and worthlessness, as well as reducing stress levels by accepting emotional and/or physical pain.

The final phase of the CBT treatment is focused on relapse prevention. In the phase, the client has the opportunity to demonstrate the skills they have learned in the course of the treatment, while the therapist has the chance to assess the adequate application (Matthews, 2013).

2. THE CURENT REVIEW

The aim of this systematic review study is to show an overview of the empirical evidence of effectiveness of cognitive behavioral therapy (CBT) in reducing suicidal cognitions and suicidal behavior.

The first systematic review and meta-analysis of CBT and the prevention of suicidal behaviors was performed by Tarrier et al, (2008). They performed a meta-analysis on 28 select studies (based on quality and using CTAM) in order to investigate whether CBT reduced future suicidal behavior. The PsychInfo and Web of Science databases were searched for articles reporting clinical trials from 1980. From 123 potential articles, 28 studies met the entry criteria. The diagnostic categories were broad across the 28 studies and not limited to depression.

Overall, Tarrier et al. found that there was a highly significant effect for CBT in reducing suicide behavior. They concluded that CBT was highly effective in reducing suicidal behaviors within the 3 month period post treatment (combined Hedge`s g= -.59, z= -5.26, p< .0001, 95% CI= -.811 to -.371). Subgroup analysis of CBT demonstrated a significant treatment effect for CBT when: compared to minimal treatment or treatment as usual (but not when compared to another active treatment); for individual treatments (but not group); for adult samples (but not adolescents); treatment directed towards reducing suicidal behavior rather than associated symptoms like depression and reductions in hopelessness. Regarding limitation of the study, authors are cautious in their conclusions because of publication biases.

In recent years, the focus of clinicians

has been toward improving the assessment of suicidal cognitions and behavior and the possibility of their application in studies regarding suicide.

According to the psychological model of cognitive vulnerability, suicidal cognitions and behaviors exist along a continuum of severity. According to Tarrier, Taylor and Gooding (2008) regarding to severity, these cognitions and behaviors adduce a degree of suicide risk and constitute targets for treatments.

Christensen, Calear, Van Spijker et al. (2014) was searching published articles in publicly available database focusing on psychosocial interventions in general for suicidal ideations, plan and attempts. They succeed to identified 154 randomized controlled trials that assessed suicidal cognitions or behaviors as an outcome measure.

The newest systematic review and meta-analysis with focus on effectiveness of cognitive behavior therapy in reducing suicidal cognitions and behavior in adult population was performed by Mewton and Andrews (2016). The studies included in this review were identified through PsychInfo database, which was searched from 1980 to 2015 using the terms from the previous mentioned study of Tarrier et al, (2008). Authors identified 15 randomized controlled trials of CBT for adults (aged 18 years and older) that included suicide –related cognitions or behaviors as an outcome measure. All 15 articles have in focus suicide cognitions and behavior as a central elements that CBT seek to change. From the evidence of this review CBT has been shown to be effective in reducing the symptoms of mental illnesses that are associated with an increased risk of suicide (Butler, Chapman, Forman and Beck, 2006).

3. RESULTS AND FINDINGS

Ten of the 15 included studies in this systematic review measured suicidal cognitions (Weinberg, Gunderson, Hennen, and Cutter, 2006; de Groot et al, 2007; Slee, Garnefski, van der Leeden, Arensman and Spinhoven, 2008; Gandy, Sharpe, Nicholson et al., 2014; Morley, Sitharthan, Haber, Tucker and Sitharthan, 2014; Tarrier, Kelly and Maqsood, 2014; van Spijker, van Straten and Kerkhof, 2014; Wagner, Horn and Maercker, 2014; Weitz, Hollon, Kerkohof and Cuijpers, 2014; Rudd, Bryan, Wertenberger et al., 2015) and there were a total of 17 comparisons with suicidal cognitions aa the outcome of interest. When suicidal cognitions were the outcome of interest, there were four medium effect size in favor of CBT.

Eight of the 15 included studies measured suicidal behaviors, (Tyrer, Thompson, Schmidt et al. 2003; Brown et al., 2005; Weinberg, Gunderson, Hennen and Cutter, 2006; Slee, Garnefski, van der Leeden, Arensman and Spinhoven, 2008; Cottraux, Boutitie, Milliery et al. 2009; Davidson, Tyrer, Norrie, Palmer and Tyrer, 2010; Barrowclough, Haddock, Wykes et al, 2010; Rudd, Bryan, Wertenberger et al., 2015) and there were a total of 14 comparisons with suicidal behaviors as the outcome of interest. When suicidal behaviors were the outcome of interest, there were three medium efect sizes in favor of CBT.

Seven of the 15 included studies focused on suicidal cognitions or behaviors as the main intervention focus (Tyrer, Thompson, Schmidt et al., 2003; Brown et al., 2005; Weinberg, Gunderson, Hennen and Cutter, 2006; Slee, Garnefski, van der Leeden, Arensman and Spinhoven, 2008; Rudd, Bryan, Wertenberger et al., 2015; Tarrier, Kelly, Maqsood et al., 2014; van Spijker, van Straten, Kerkohof, 2014). It is interesting that strongest effect sizes were drawn out from interventions that focused specifically on suicidal cognitions and behaviors.

4. DISSCUSION AND CONCLUSIONS

This review focused specifically on suicidal cognitions and suicidal behaviors because they are the core elements that CBT seek to change. The conclusion drawn from the empirical evidence is that CBT is useful for prevention and reduction of suicidal cognitions and suicidal behaviors. Large clinical reports have also shown that suicidal cognitions and behaviors reduce significantly following CBT for depression (Mewton and Andrews, 2015).

The topic of suicidal cognition and suicidal behavior is of special importance to clinicians and practitioners. Analyses of empirical findings from the oldest, first systematic review and meta-analysis (Terrier et al., 2008) and the newest one (Mewton and Andrews, 2016) shown that there not enough evidence from clinical trials to suggest that CBT focusing on mental illness reduces suicidal cognitions and behaviors. But, from the other hand, CBT focusing on suicidal cognitions and behaviors was found to be effective.

Unfortunately, this is the first research project in the Republic of Macedonia that is dedicated to researching the cognitive aspects of suicide and its treatment with cognitive-behavioral therapy with the goal of reducing the risk of suicide and suicidal behavior. The effort should be considered in context of some limitations, primarily concerning methodology, that is the instruments and the samples for the study. Of course, cultural specificities of the countries in which the study is being done should also be taken into consideration.

This assessment work is focused on cognitive behavioral psychotherapy, which is known for its effectiveness in reducing symptoms connected with various mental disorders (Butler, Chapman, Forman and Beck, 2006). Based on empirical evidence, we can conclude that CBT is effective and popular strategy in prevention and reduction of suicidal cognitions and suicidal behaviors.

Taking into consideration the effectiveness of this psychotherapy, we can conclude that it is preferable for clinicians to be trained in working with CBT techniques focused on suicidal cognition and behavior that are independent of treatment of mental disorders. In addition, it is necessary to initiate new research that will make it possible to create preventive and interventional programs dedicated to reducing the risk of suicide.

Also, it is of great importance to further reduce suicide deaths and improve patients outcomes. In doing so, there is a need of creating national strategy which will be supplemented with selective or indicated prevention strategies that target groups or individuals at high risk for suicide.

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Conflict of interests

The authors declare no conflict of interest.

REFERENCES

Barrowclough, C., Haddock, G., Wykes, T., Beardmore, R., Conrod, P., Craig, T., Davies, L., Dunn,G., Eisner, E., Lewis,S., Moring, J., Steel,C., & Tarrier, N. (2010). Integrated motivational interviewing and cognitive behavioural therapy for people with psychosis and comorbid substance misuse: randomised controlled trial. *BMJ*, 341, c6325.

Brown, G. K., Ten Have, T., Henriques, G. R., Xie, S. X., Hollander, J. E., & Beck, A. T. (2005). Cognitive therapy for the prevention of suicide attempts: a randomized controlled trial. *JAMA*, 294(5), 563-570.

Butler, A. C., Chapman, J. E., Forman, E. M., & Beck, A. T. (2006). The empirical status of cognitive-behavioral therapy: a review of meta-analyses. Clinical psychology review, 26(1), 17-31.Cavanagh, J. T., Carson, A. J., Sharpe, M., & Lawrie, S. M. (2003). Psychological autopsy studies of suicide: a syste-matic review. *Psychological medicine,* 33(03), 395-405.

Chesney, E., Goodwin, G. M., & Fazel, S. (2014). Risks of all-cause and suicide mortality in mental disorders: a meta-review. *World Psychiatry*, 13(2), 153-160.

Christensen, H., Calear, A. L., Van Spijker, B., Gosling, J., Petrie, K., Donker, T., & Fenton, K. (2014). Psychosocial interventions for suicidal ideation, plans, and attempts: A database of randomised controlled trials.*BMC psychiatry,* 14(1), 1.

Cipriani, A., Hawton, K., Stockton, S., & Geddes, J. R. (2013). Lithium in the prevention of suicide in mood dis-orders: updated systematic review and meta-analysis. *BMJ*, 346, 3646.

Comtois, K. A., & Linehan, M. M. (2006). Psychosocial treatments of suicidal behaviors: A practice friendly review. *Journal of clinical psychology*, 62(2), 161-170.

Cottraux, J., Note, I. D., Boutitie, F., Mil-liery, M., Genouihlac, V., Yao, S. N., Note, B., Mollard, E., Bonasse, F., Gaillard, S., Djamoussian, D., Guil-lard Cde, M., Culem, A. & Gueyffier, F. (2009). Cognitive therapy versus Rogerian supportive therapy in borderline personality disorder. *Psycho-therapy and psychosomatics,* 78(5), 307-316.

Davidson, K. M., Tyrer, P., Norrie, J., Palmer, S. J., & Tyrer, H. (2010). Cognitive therapy v. usual treatment for borderline personality disorder: prospective 6-year follow-up. *The British Journal of Psychiatry*, 197(6), 456-462.

de Groot, M., de Keijser, J., Neeleman, J., Kerkhof, A., Nolen, W., & Burger, H. (2007). Cognitive behaviour therapy to prevent complicated grief among relatives and spouses bereaved by suicide: cluster randomised con-trolled trial. *BMJ*, 334 (7601), 994.

Ellis, T. E. (1986). Toward a cognitive ther-apy for suicidal individuals. Professional Psychology: *Research and Practice*, 17(2), 125.

Gandy, M., Sharpe, L., Nicholson Perry, K., Thayer, Z., Miller, L., Boserio, J., & Mohamed, A. (2014). Cognitive Be-haviour Therapy to Improve Mood in People with Epilepsy: A Randomised Controlled Trial. *Cognitive behaviour therapy,* 43(2), 153-166.

Linehan, M. M. (2008). Suicide intervention research: a field in desperate need of development. *Suicide and Life-Threatening Behavior*, 38(5), 483-485.

Matthews, J. D. (2013). Cognitive Beha-vioral Therapy Approach for Suicidal Thinking and Behaviors in Depres-sion. *INTECH Open Access Publisher.*

Mewton, L., & Andrews, G. (2015). Cogni-tive behaviour therapy via the inter-net for depression: A useful strategy to reduce suicidal ideation. *Journal of affective disorders,* 170, 78-84.

Mewton, L., & Andrews, G. (2016). Cogni-tive behavioral therapy for suicidal behaviors: improving patient out-comes. *Psychology research and behavior management,* 9, 21.

Morley, K. C., Sitharthan, G., Haber, P. S., Tucker, P., & Sitharthan, T. (2014). The efficacy of an opportunistic cog-nitive behavioral intervention pack-age (OCB) on substance use and comorbid suicide risk: A multisite randomized controlled trial. *Journal of consulting and clinical psychology,* 82(1), 130.

Rudd, M. D., Bryan, C. J., Wertenberger, E. G., Peterson, A. L., Young - McCaughan, S., Mintz, J., Williams, S. R., Arne, K. A., Breitbach, J., Delano, K., Wikinson, E., & Bruse, T. (2015). Brief cognitive-behavioral therapy effects on post-treatment suicide attempts in a military sample: results of a randomized clinical trial with 2-year follow-up. *American journal of psychiatry,* 172(5), 441-449.

Slee, N., Garnefski, N., van der Leeden, R., Arensman, E., & Spinhoven, P. (2008). Cognitive–behavioural in-tervention for self-harm: randomised controlled trial. *The British Journal of Psychiatry*, 192(3), 202-211.

Tarrier, N., Kelly, J., Maqsood, S., Snelson, N., Maxwell, J., Law, H., Dunn,G., & Gooding, P. (2014). The cognitive behavioural prevention of suicide in psychosis: a clinical trial. *Schizophrenia research*, 156(2), 204-210.

Tarrier, N., Taylor, K., & Gooding, P. (2008). Cognitive-behavioral interventions to reduce suicide behavior a systematic review and meta-analysis. *Behavior modification*, 32(1), 77-108.

Tyrer, P., Thompson, S., Schmidt, U., Jones, V., Knapp, M., Davidson, K., Cata-lan, J., Airlie, J., Baxter, S., Byford, S., Byrne, G., Cameron, S., Caplan, R., Cooper, S., Ferguson, B., Free-man, C., Frost, S., Godley, J., Greenshields, J., Henderson, J., Holden, N., Keech, P., Kim, L., Logan, K., Manley, C., MacLeod, A., Murphy, R., Patience, L., Ramsay, L., De Munroz, S., Scott, J., Seivewright, H., Sivakumar, K., Tata,P., Thornton, S., Ukoumunne, O.C., & Wessely, S. (2003). Rando-mized controlled trial of brief cogni-tive behaviour therapy versus treat-ment as usual in recurrent deliberate self-harm: the POPMACT study. *Psychological medicine*, 33(06), 969-976.

van Spijker, B. A., van Straten, A., & Kerk-hof, A. J. (2014). Effectiveness of online self-help for suicidal thoughts: Results of a randomised controlled trial. *PLOS ONE*, 9(2), e90118.

Wagner, B., Horn, A. B., & Maercker, A. (2014). Internet-based versus face-to-face cognitive-behavioral in-tervention for depression: A randomized controlled non-inferiority trial. *Journal of affective disorders*, 152, 113-121.

Weinberg, I., Gunderson, J. G., Hennen, J., & Cutter Jr, C. J. (2006). Manual as-sisted cognitive treatment for delibe-rate self-harm in borderline personal-ity disorder patients. *Journal of personality disorders*, 20(5), 482.

Weitz, E., Hollon, S. D., Kerkhof, A., & Cuijpers, P. (2014). Do depression treatments reduce suicidal ideation? The effects of CBT, IPT, pharmacotherapy, and placebo on suicidality. *Journal of affective disorders,* 167, 98-103.

World Health Organization. (2014). *Preventing suicide: A global imperative.* World Health Organization.

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In 2012 Stosic compared reaction times ... (ibid, page 102).

• When a work has two authors, always indicate both names and year and between surnames of the authors specify the conjunction &.

Nightlinger and Littlewood (2003) demonstrated ...

As has been shown (Busk & Serlin, 1993) ...

• When in plain text quoting the names of three, four or five authors, first make sure to include all the names, and text enough to write only the first and add '' and associates''.

First time: Yan, G., Tian, H., Bai, X. & Rayner, K. (2006). found ...

Second time: Yan, G.et al. (2006) found ... (ibid, p. 12)

• When a work has no author's name, whether it's because it is issued by the agency, organization, or governmental institutions, rather than the names of authors mention the name of the institution or organization that has signed the paper, and if a name is long, just so many words or abbreviation as needed to locate the source in the list of references.

First time: (National Institute of Mental Health [NIMH], 1999) ...

Second time: (NIMH, 1999) ...

• When you do not have the names of institutions or authors, when the work is anonymous, then mention only the first few words of the title, and we quote them in parentheses under the quotation marks in plain text in italics.

These result present (‘’ Study Finds, ‘’ 2002) ...

The book College Bound Seniors (2003) ...

When work in the header nominated as anonymous, then it in the text under the anonymous quote and cite year, in English (Anonymous, 2011).

• If there are two references to the same author's last name, then be sure to mention when citing the initials to avoid unnecessary search in a list of references.

JM Goldberg and Neff (1961) and ME Goldberg and Wurtz (1972) studied ...

• If the same author or the same authors cite two or more references, then in brackets do not repeat names but just add a year for the next release.

Past research (Edeline & Weinberger, 1991, 1993) ...

Past research (Gogel, 1984, 1990) ...

• When the same author we have more work during one year, then these sources labeled the letters of the alphabet a, b, c and so on.

Several studies (Gogel, 1984, 1990a, 1990b) ...

• When several authors cite in the same bracket, or when we point to the consent of the author, references detach semicolon and listed them in alphabetical order.

Several studies (Balda 1980, Kamil 1988, Pepperberg & Funk, 1990) ...

• If with some of the references cite a source that confirms what is specific to this reference, then the source listed below see also, but that goes with the source of reference, but not alphabetically.

Several studies (Minor 2001; see also Adams, 1999; Storandt, 1997) ...

• When quoting hearsay, cite the author's name and year of the original work, followed by a semicolon and then cited code, then last name, year and foreign labor from which he quoted original work.

The first definition of intrinsic motivation gave Decy (1975; see Suzić 2005, p. 108) ...

• If we know the year of the first publication of the work, then it is to be connected age translation by first listed year of first publication, a slash and then year translation.

(James, 1890/1983)

• For an Internet source that does not have a bookmarked Web page, use a pair of ¶ and paragraph number on the page where it was published.

(Myers, 2000, ¶ 5)

• Personal communication or publicly spoken words in a lecture to quote only in plain text, but not in the list of references, but does mention the date of actual communication.

Decy (personal communication, April 18, 2001) ...

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The author's name [comma], initial / names [point], [open small brackets] year of publication [close little brackets] [point] title of the paper [point], the name of the magazine - in italics [comma] the number or volume - in italics [comma] page starting work [line] Page completing work [point].

Dennis, TA, Cole, PM, Wiggins, CN, Cohen, LH & Zalewsky, M. (2009). The functional organization of preschool-age children's emotion expressions and actions in challenging situations. Emotion, 9, 520-530.

• Form quoting the works of authors of books is as follows:

The author's name [comma], initial / names [point], [open small brackets] year of publication [close little brackets] [point] title deeds - in italics [point], the city (and state) [two counts], the publisher [Point].

Hirsch, Jr., E. D. (1996). The schools we need and why we do not have them. New York: Doubleday.

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The author's name [comma], initial / names [point], [open small brackets] year of publication [close little brackets] [point] title of the paper [point], In Proceedings ... (note that the work was published in a journal or book ...) The name of the publisher [open small brackets] Issue. (Note that this is a publisher) [Close little brackets] [comma] title of the collection - in italics [open small brackets] page starting work [line] Page completing work [point], the city (and state) [two counts], publisher [point].

Barrett, KC, & Campos, JJ (1987). Perspectives on emotional development: II. A functionalist approaches to emotions. In Osofsky JD (Ed.), Handbook of Infant Development (2nd ed., Pp. 555-578). Oxford, England: Wiley.

• If seven or more authors, then we will list the names of the six authors, and the seventh and the rest fall into the category of '' and associates ''.

Adam, JJ, Paas, F. Teeken, JC van Loon, EM, Van Boxtel, MPJ, Houx, PJ, et al. (1998). Effects of age on performance and a finger-precuing task. Journal of Experimental Psychology: Human Perception and Performance, 24, pp. 870-883.

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The new health-care lexicon. (1983, August / September). Copy Editor, 4, 1-2.

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Ganster, DC, Schaubroeck, J. Sime, WE, & Myers, BT (1991). The nomological validity of the Type A personality among employed adults [Monograph]. Journal of Applied Psychology, 76, 143-168.

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Woolf, NJ, Young, SL, Famselow, MS, & Butcher, LL (1991). Map-2 expression in cholinoceptive pyramidal cells of rodent cortex and hippocampus is altered by Pavlovian conditioning [Abstract]. Society for Neuroscience Abstracts, 17, 480 harvesters.

• Titles that are not in English, and we want them to be published in the journal in English, listed in their native language, and then in the square brackets give the title translation into English. In addition to the title, everything else remains the mother tongue.

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• In the list of literature translated work following a text that we have a year of the original edition listed in parentheses at the end behind the publisher. When we quote in plain text, year of first publication and translation writing along with a slash between (eg. Laplace, 1814/1951).

Laplace, P. S. (1951). A philosophical essay on probabilities (FW Troscott & FL Emory, Trans.). New York: Dover. (Original work published 1814)

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